THE NEW-YORK

JOURNAL OF MEDICINE.

FOR SEPTEMBER, 1849.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Case of Cancerous Disease of the Spinal Cord.* By CHARLES A. LEE, M. D., Professor of Pathology in Geneva Medical College; the University of Buffalo, etc., etc. (With a Plate.)

ABOUT three years ago, I was called to see Mr. A. C. of this village, who was supposed to be laboring under some obscure form of disease, involving the spinal cord. He was of a strongly marked nervous temperament; thin emaciated form, and about 45 years of age. I found him laboring under great functional derangement of all the important organs, especially the kidneys and the liver; the urine being loaded with phosphatic deposits and highly ammoniacal, while immense quantities of fine bilious, calculous matter, chiefly cholesterine, passed with almost every evacuation from the bowels. He moved about with difficulty; complained of constant pain in the back and loins, and at times, severe neuralgic pains would attack the muscles of the trunk and extremities, or some of the large internal organs. The pain through the loins and kidneys was so severe that it was thought, in connection with spinal disease, there were renal calculi deposited in the substance of the kidneys. The tenderness over the lower dorsal and upper lumbar vertebræ, on pressure, was

considerable. The history of the case, as communicated to me by his physician, Dr. Enos Barnes, is as follows:

He was taken in 1840, with pains in the right hip, occasioned, as he supposed, by riding a hard trotting horse. About 16 months afterwards, a painful abscess appeared on the left side, over the spleen, which was opened, and discharged for several weeks, but finally healed. A few weeks subsequent to this he began to be low spirited, and neuralgic pain, which had been rather slight hitherto, increased and became more general, nervous debility seemed to hang around him, and hypochondriasis became established. Appetite poor, much flatulence, bowels very irregular, causing alternately the extremes of costiveness or diarrhœa.

In the fall of 1842, while on a journey, he was taken with greatly increased neuralgic pains, which, for the first time, affected the spine principally in the lumbar region, producing great tenderness. Being bilious, he took liberal doses of calomel and was severely salivated; after a partial recovery he returned to his family. The neuralgia, however, extended to the lower limbs, first to one side and then to the other, but soon became more general, and affected both at the same time. He was cupped and bled freely, used rubefacients and repeated blisters and setons over the spine; took morphia and almost all the other strong narcotics, together with mineral and vegetable tonics, particularly the former; all of which gave partial relief from the pain, and materially improved his general health. At this time the death of a member of his family very seriously affected him, so much so as to entirely prostrate him; soon after which he removed to the village of Geneva, and Dr. Barnes took charge of the patient. According to his account, narcotics seemed to be the only remedies that gave any relief; his pain being excessive the greater part of the time.

He was then put upon the use of nitric acid, in conjunction with the narcotics, which seemed to produce a favorable effect, restoring the exhausted energies of the system, so that he could walk about the village with very little pain. This

improved condition continued for about three months, when he declined the further use of the acid. Soon afterward, from taking cold, he was re-attacked with violent neuralgic pains in various parts, but most severely in the lumbar region, which continued with increasing violence, at irregular intervals, till his death, which took place in May, 1849. For the last three or four years of his life, it became necessary, in order to obtain relief from his excessive pain, to use large quantities of morphia; which, after almost every other kind of narcotic had been extensively tried, was found to be preferable. Occasionally when the pain was most severe, he took as much as 15 grains in from four to eight or ten hours.

For the last two or three years he has seldom or never had anything pass his bowels, except by the aid of injections; even the most active cathartics could never be made to operate without such aid. He also frequently passed large quantities of renal and bilious calculi. Among other remedies magnetic electricity was extensively and faithfully tried, but with very little benefit.

It appears from his confession, that for many years he had practised excessive venery, although he as well as his wife enjoyed tolerably good health for a long time, and did not appear to be materially injured by it. He was also addicted, for many years, to a most inordinate use of tobacco.

About five or six months before his death, he lost entirely the use of his limbs, which retained, to a considerable degree, the power of sensation; and he was wholly confined to his bed: previous to that time, however, he had moved about the house with the greatest difficulty, motion causing exquisite pain, so severe were his paroxysms of suffering at times, that his screams could be heard at a distance of several rods, although he was a man of considerable fortitude and power of endurance. He sunk from gradual exhaustion.

Autopsy.—Ten hours after death.—Body much emaciated, no external marks or discolorations. The thoracic viscera were found perfectly healthy; also the large abdominal organs. The kidneys were rather smaller than natural, but

their texture, as well as that of the liver, was natural. The colon in several places, was contracted for the space of several inches to the size of the little finger, its coats being evidently thickened and somewhat indurated. How long this alteration had existed it is impossible to say, but probably for a long time, which may account for the obstinate constipation under which he labored. Hard scybalous masses were found in considerable quantity above these contractions in the gut. The spleen was somewhat enlarged, and softened in its texture.

Spinal Cord. The chief disease was found seated in the lumbar portion of the spinal cord, opposite the last dorsal and two upper lumbar vertebræ; at this part, for a distance of several inches, the membranes of the cord were found wanting, and a carcinomatous degeneration of the substance of the cord had taken place, disorganizing its texture upon its anterior face especially and more or less throughout its whole diameter. The spinal marrow, for a space of two or three inches, was changed in color and density; some portions being softened and almost diffluent, and interspersed throughout, were deposits of melanotic matter; while other parts were of abnormal hardness, and of a dirty white or yellowish hue, intersected with blood-vessels crossing in different directions. The pressure of the cancerous tumor on the spinal column had caused the absorption of a portion, probably two-thirds, of the bodies of the two upper lumbar vertebræ; and these cavities, varying from one to two inches in depth, were filled with portions of the diseased mass. The diseased portions filled up the cancellated texture of the bones and was separated with great difficulty, some of it being soft and semi-fluid.

Remarks.—Cancerous degeneration of the spinal cord must be regarded as an extremely rare disease. The French translator of Meckel's Anatomy, (*Am. ed.* p. 507, vol. 2,) remarks, that "*we know as yet of no well authenticated case of cancer of the spinal marrow.*" Andral, although he collected 43 cases of cancer of the brain, recorded none of the spinal cord itself, from which I infer that the disease had escaped

his observation. Guersent mentions a case of cancer of the medulla oblongata, which had principally destroyed the pyramids and olivary bodies.

Cruveilheir has recorded a case of cancerous tumor under the arachnoid membrane, in a fatal case of paraplegia, opposite the third dorsal vertebra; which, by its pressure, had caused the paraplegic symptoms. (*Anatomie Pathologique, livraison* 32, fig. 2. 2. 2.) This tumor is described as of an ovoid shape, of a grayish color, soft in consistence, and occupying the anterior face of the cord. This seems to have been a case of cancerous tumor originating in the membranes and only affecting the cord by mechanical compression. Cruveilheir remarks that it is not uncommon to find grayish-red granulations, of the same consistence as those of the brain, in the cellular tissue beneath the arachnoid of the spinal cord, just as they are met with under the same membrane below the dura-mater in the brain. This pathologist also refers (*loc. cit.*) to a case observed by M. Duplay, one of M. Rostan's assistants, in a man 63 years of age, who died of paraplegia, cerebral hemorrhage supervening, with loss of sensation and motion, and where two tumors were discovered beneath the arachnoid; the lower one among the nerves of the *cauda equina*, of the size of a large filbert; grayish, soft, granular, and semi-transparent; its surface being traversed by large veins, which formed a kind of sheath. The other tumor occupied the superior and posterior part of the dorsal region; was olive like, and of a similar structure to the tumor below. The posterior and middle portions of the spinal cord, were of a pulpy consistence, grayish, and semi-transparent in their whole corresponding portions. Cruveilheir refers to tumors of an encephaloid nature, attached to the membranes, one of which he has observed growing from the dura-mater of the cord, attached to it by a pedicle of a grayish hue, soft, and enveloped by a fine membrane. In the Transactions of the *Royal Med. and Chir. Society of London*, (sec. series, vol. 1st, 1841,) we find four well-marked cases of cancerous or malignant disease of the spinal column, described by Mr. Cæsar

Hawkins, which constitute by far the most important additions to the pathology of this disease, hitherto recorded.

Case 1.—The first was the case of a female, aged 39, admitted into St. George's Hospital for cancer of the breast. On dissection, the body of the 5th cervical vertebra was found very irregular on its surface, and was softened throughout, with much enlargement of the cells of the cancelli, which were filled with a sanguineous pulpy fluid; the two adjoining vertebræ showed a lesser degree of the same morbid structure. In this case, the cancerous degeneration in an early stage, affected chiefly the cancellous texture, and influenced the adjacent nerves, but not forming any tumor, and causing no alteration in the functions of the spinal marrow. It will be noticed that the cancerous affection of the spine, preceded schirrus of the breast.

Case 2.—The second case was that of a female, aged 55, admitted for paraplegia, who had six years previously had a cancerous breast removed. Pain commenced in the dorsal region of the back, attended by pricking sensations in the feet, and soon followed by numbness and loss of sensation, and in a short time by loss of power over the muscles of the lower limbs, which became involuntarily contracted, with paralysis also of the bladder and rectum. The patient at length complained of constant and acute pain along nearly the whole spine; tenderness was manifested on pressure; and while there was an absence of voluntary motions, the excito-motory power was displayed on the application of irritants to the extremities.

Autopsy.—All the vertebræ were found to be unusually soft and vascular, and there were seen in the section of several of the dorsal vertebræ spots or tubercles of yellowish-white substance, similar to that found in larger quantities in these bodies. On opening the sheath of the spinal marrow, a little clear water was seen below the arachnoid membrame, but the whole medulla was of its natural color and consistence, and presented no appearance of inflammation. Opposite to the sixth dorsal vertebra it had been pressed upon by a tumor projecting from the body of the bone, so that a deep sul-

cus of the entire circle was formed, in which so little medullary matter was left that the central part was almost transparent. The part thus pressed upon was full half an inch in length.

Opposite to this part some firm structure, without bone, projected from the body of the 6th dorsal vertebra in the form of four oval prominences, so as to encroach considerably on the canal; three of these were covered by the dura mater in firm union with the morbid growth, but over the other an opening was formed in the membrane, with smooth edges, through which the new growth appeared, the opening being the result of simple absorption, without any ulceration. On making a section of the vertebræ the morbid growth was found to proceed from these vertebræ, the 6th or central one being most altered in shape, though all three of their bodies were almost entirely converted into a cancerous substance, the 6th having spread out posteriorly, while it was much compressed in front, the 5th and 7th vertebræ almost coming in contact. An acute angle was thus produced, which made a considerable prominence during life. The cancerous matter had been deposited in the form of tubercles in the cancelli of several of the other vertebræ. The new growth was firm with fibrous structure of a white appearance in bands, with some yellow softer substance in the interstices; many of the other bones of the body, and the other parts of those in which the cancerous tubercles were seen, were softer and more vascular, and with larger cells than usual, with reddish pulp, in their cancelli.

Case 3.—In this case, a gentlemen, aged 74, was attacked on exposure to cold, with severe pain on the left side of the neck, extending from the head to the shoulder, with numbness of the left side of the head. The pain, which was like that of rheumatism, was persistent, and succeeded by a swelling on the left side of the neck. The pain and swelling continued to increase; the former excruciating and constant, and the latter extending from the head to the level of the 5th cervical vertebra, having a firm, elastic feel, with a sense of deep

fluctuation. The swollen part was very tender, without adhesion to the skin or change of color; motion, even the slightest attempts at rotation of the head, was attended with excruciating pain. About 3 weeks before death, the left arm became nearly paralyzed, and the power over the left leg was somewhat impaired, the senses remaining, all the time, perfect. The *pain continued constant*, preventing sleep, and demanding opiates in large doses.

On dissection, the tumor was found to occupy the place of the 3d cervical vertebra, part of the 2nd, with a considerable portion of the adjacent ligamentous, tendinous and muscular substance; the distinction between what had been of osseous, and what of soft structure, not being clearly perceptible. The new structure occupied the whole of the arches and processes of the vertebræ, and in part their bodies also, so that scarcely any osseous part remained. The medulla itself was not unusually vascular, and the brain was also healthy, with the exception of some serum effused under the arachnoid of the cerebrum. The tumor was white and lardaceous in appearance, and softest in the centre where the bone originally existed, which part was also more vascular than the outer part, which had been formed by the softer tissue around the vertebræ; on the left side, where the natural texture of the muscles began to be evident, in union with the morbid growth, was a small quantity of dark bloody pus.

The 4th case does not present any thing worthy of particular note.

Sir Astley Cooper has also recorded two cases of cancer of the spinal column, and Sir B. Brodie one. These comprise, it is believed, most, if not all of the cases hitherto published.

In nearly all of the cases, pain, the most excruciating, appears to have been present; and Mr. Hawkins observes, that he never saw evidence in any other disease of the spine of such exquisite suffering, as in two of his cases. When with this we associate derangement of the functions of the spinal marrow, in some cases amounting to a total abolition of the power of sensation and motion, with derangement also of

the functions of the liver, kidneys, bladder, &c., we shall be aided in our diagnosis.

In the case of Mr. C., there was no doubt in the minds of any of the physicians who saw the patient, that there was severe and extensive disease of the spinal cord, but no one formed a correct idea of its nature, or supposed that there was such freedom from disease in the important vital organs; there being grave functional derangement, both of the kidneys, liver, and digestive apparatus generally.

Cancer of the spinal cord, as well as that of the brain, does not, however, reveal its presence by any very characteristic symptoms, unless the intense pain be so regarded. The anterior portion of the column was the chief seat of the disease in the present instance, and the power of motion was more affected than that of sensation, which indeed seemed to have been exalted throughout a considerable period of the disease. Whether the disease originated in the substance of the cord, or in the membranes, as in the cases recorded by Cruveilheir, or in the cancellated structure of the bones, is doubtful; it seems most probable that it commenced in the membranes, which, together with a considerable portion of two of the bodies of the lumbar vertebræ, became absorbed by the pressure; thus causing the paralysis, and the functional derangements described.

The Plate accompanying this case exhibits very distinctly the appearance of the diseased mass, and the spinal cord (the sheath being removed,) for some distance above and below the tumor.

Fig. 1 represents a posterior view of the cord, the membranes being laid open, showing the vessels beautifully injected.

Fig. 2 is a side or lateral view of the cord, representing the cancerous tumors projecting into the cancellated structure of the bones, (the two upper lumbar vertebræ,) the membranes at this part having been absorbed.

Cancer of the Spinal Column.—Mr. Walshe has given us a case of this disease, affecting the lumbar vertebræ, in one of which it originated and where with the progress of infililation

the bony tissue had disappeared, and the adventitious substance had destroyed the compact tissue, and protruded posteriorly under the dura mater into the spinal canal, and anteriorly under the anterior ligament. The cancerous product was composed of a fibrous stroma, having its fibres arranged almost rectilinearly, and containing creamy, sanguineous pulp in its meshes, being of the scirro-encephaloid species. The cases described by Sir Astley Cooper, Mr. Brodie, and Mr. Hawkins, were all of a similar kind, involving the cancellated tissue of the vertebræ, and of a true encephaloid character. Mr. Sanson (*Arch. Gén. de Méd.*, tom. iv., p. 691,) has described a case of general cancerous diathesis, in which almost every one of the vertebræ contained cancerous substance. It would seem to be the tendency of the cancerous disease, after having destroyed the bony structure, to grow in the direction of the spinal canal, pushing before it the dura mater; the bones being removed by interstitial absorption, as the new material accumulates. The medulla and meninges undergo no alteration, so long as the disease is confined to the bony structure; but when it makes its way into the spinal canal, it may contract adhesions to the dura mater and press on the cord, causing atrophy and paralysis. But one or two cases are on record, where the cancerous diathesis was first manifested in the spinal region; in a great majority of instances the mamma has been the organ primarily affected.

The *symptoms* of spinal cancer are not uniform. In one case, (*Brodie's,*) there seems to have been but little pain; but in all the other cases, pain, at first resembling that of rheumatism, but afterwards becoming more constant and acute, or excruciating, has been observed. With this are connected pain and tenderness on pressure, together with inability to lie in certain positions and perform certain movements, according to the part affected. Tumor externally, after the soft parts have become effected, is also one of the usual symptoms, as well as the posterior prominence of one or more of the spinous processes.

If the nerves have become implicated in cancer of the cervical vertebræ, pain may be expected about the neck and over the scalp; in one of Mr. Hawkins' cases, there was pain and difficulty in swallowing. The symptoms dependant on the medulla will of course vary according to the extent of the disease. Pain, numbness, loss of sensation and motion, involuntary spasms, involving the lower limbs, have been observed; and these were present also in the case I have described. Loss of power over the sphincters of the bladder, and rectum is also to be expected in severe cases, together with an alteration in the intestinal secretions, permanent alkalescence of the urine, disposition to sloughing, œdema, &c. In this affection death results from the cachectic state, the patient being gradually worn down by severity of suffering and failure of digestive power. The treatment can of course, be only palliative.

Cancer of the Spinal Meninges.—There have been several cases recorded, showing that cancerous disease may attack the various membranes of the cord, and the interspaces between them. Walshe (*The Nature and Treatment of Cancer, Eng. ed.*, p 526,) has related a case, where the cellular membrane between the vertebræ and dura mater was the sole seat of the disease, and Dr. Abercrombie found in the body of a male a spongy tumor, of a grayish yellow color, resembling fungus hematodes, within the foramen magnum, attached to the inner surface of the dura mater; and M. Cruveilheir (*loc. cit.*) describes a case where the tumor was attached to the dura mater of the cord by a narrow fibrous peduncle. M. Hardy and M. Collin have given us cases where encephaloid tumors have been found growing in the arachnoid cavity attached by tender filaments to the medullary laminæ of the membrane. Cases of this disease, situated in the cellular membrane, between the pia mater and deep laminæ of the arachnoid, may be found described by Dr. R. Reid, Dr. Fisher, M. Velpeau, and M. Cruveilheir.*

The medulla may or may not be affected in this form of the

* See Bibliography at end of this article.

disease, according to its progress and extent. *Myelitis*, with softening, may result from the pressure, and the symptoms also vary according to the same circumstances. Local pain and tenderness are not to be expected, where the bones and subcutaneous textures are free from disease; but where the medulla is pressed upon, then alterations of sensibility and movement, may be looked for in the parts below the seat of the disease. At first muscular power is lessened; then the limbs are stiff and difficult to control; tonic contraction, or painful convulsive movements may exist in some cases, constituting a species of painful paraplegia. Sensibility or motion will be affected, according as the posterior or anterior tracts of the spinal cord are implicated; although one or two cases seem to throw doubt upon this point. (*Cruveilheir.*) Retention and incontinence of urine, with obstinate confinement of bowels, or involuntary discharge of the fæces, and an alkaline and purulent state of the urine, œdema of the implicated limbs, and ulceration and sloughing of parts subjected to pressure; these and other symptoms have been observed in particular cases. Besides the cancerous, the spinal meninges may be the seat of at least four kinds of tumors, viz: the simple fibrinous, the fibrous, tuberculous, and the acephalocystic. In some cases, as already observed, it is impossible to determine from what texture the diseased mass originally sprang. Several cases of this kind are recorded by Walshe. (*loc. cit.*)

Spinal Marrow.—But little is known in relation to cases originating in the cord itself. Abercrombie, (*Diseases of Brain*, 3d *ed.*, p. 369, 1836,) has quoted a case from Gendrin, in which "a firm white tumor, the size of a filbert, enclosed in a cyst, and slightly softened in the centre, was found at the lower extremity of the cord. It lay between the two columns of the cord of the left side, and in some degree encroached upon those of the right; the left anterior column, in particular, was much distended and flattened by it." Calmeil has also recorded a similar case. *Art.* Moëlle Epinière, Dict. de Méd., 2ème édit. tom. xx, p. 52, 1839. Another case is given by *Ollivier*, De La Moëlle Epinière, etc., de 3ème édit. tom. ii., p. 503, 1837.

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ART. II.—*On Malaria.* By SAMUEL HENRY DICKSON, M. D., Professor of Theory and Practice of Medicine in the University of the City of New-York.

THE etiology of periodical fevers is a topic of permanent and absorbing interest. Few subjects have been so often or so ably discussed; the ingenuity of medical theorists has found no where so wide and fair a field for its exercise. Let us examine, for a moment, the present state of the discussion.

Diseases may be divided into the specific and non-specific; those which require for their production a special cause, an agent of definite and characteristic properties, being designated by the term specific. Here we would include the contagious affections, febrile and non-febrile, in all which a notable *materies morbi* may be referred to as necessary for the generation or production of the concurrent phenomena. Under the same head we might speak of delirium tremens, rachialgia, and spontaneous gangrene from ergot, and the long list of influences exerted by the several articles of the materia medica: ptyalism from mercury; the sloughing cheek and carious al-

veoli of the phosphorus match-maker; nay, the mechanical phthisis of the knife-grinder and coal-heaver might be placed here, with the long train of less palpably developed results of narcotism by alcohol and tobacco. Beyond these our inquiries must invade the domains of conjecture and speculation.

It is, however, among endemics and local epidemics that we shall find the subjects of most difficult research, and in this relation, of the highest importance. Why plica polonica belongs only to one region or people, and pellagra exclusively to another; why bucnemia prevails specially in Barbadoes; trismus nascentium in Iceland, and traumatic tetanus in Santa Cruz; why plague and ophthalmia are indigenous to Egypt, and yellow fever to Havana and Carthagena; why goître and cretinism besets so grievously the Alpine valleys; and why the rich fields of Lombardy and the desolate plains of the Campagna di Roma, are annually ravaged by periodical fevers, these are questions which, perpetually recurring, have hitherto received no satisfactory answer.

To which of these classes of disease, specific or non-specific, does periodical fever belong? This is the first point to be investigated; this is the first step in the debate; and if the correct direction be not followed from the beginning, we must surely be led far astray, in our progress toward a conclusion.

The prevailing opinion that such fevers are of specific nature, and derive their origin from a peculiar morbid agent or poison, is maintained, not without some vagueness, I acknowledge, upon the following grounds: 1. The familiar series of concurrent and successive symptoms, the characteristic phenomena of these fevers, are supposed to be so marked as to demand, *ex necessitate*, a reference to a specific and relevant cause. 2. The second position, implied, indeed, in the first, is the total inadequacy of all obvious contingencies and known modes of causation to account for effects apparently so varying and disconnected with them, yet, under other and indefinable circumstances, so uniform and susceptible of repetition. 3. The *à posteriori* argument drawn from the une-

quivocal and impressive efficiency of the best, if not the only specific remedy known in our materia medica, (cinchona and its salts.)

1. The periodicity of these fevers, so familiar and yet so strange a fact, or series of facts, has not been, I think, sufficiently considered or studied. It is true, that periodicity is a very frequent element of disease in general; nay, a certain degree of regularity of movement, of alternating or recurrent conditions, may, perhaps, be regarded truly as the rule, and its absence the exception, in the symptomatology of all morbid affections. Neuralgia rarely fails to observe this law with more or less precision; convulsive maladies generally, epilepsy and hysteria more particularly, show its influence; the return of hemorrhages may often be predicted; inflammations, irritations and congestions, all are known to recur at stated times, and even suppuration is occasionally suspended and resumed at exact intervals, as in the tenacious disorder of the frontal sinus and antrum maxillare connected with influenza; organic changes of structure, scrofulous and others, though of course themselves continuous, give rise to hectic of diurnal or double diurnal repetition, and the same periodical disturbance of the constitution often follows wounds and mechanical injuries. It is also true that all the healthy functions, actions, and habits of the system are either governed originally by some law of regular revolution or fall readily into a convenient obedience to it; and upon this normal periodicity seems indeed to be founded most of the phenomena of periodicity belonging to the history of diseases.

But if any are independent of this analogy, proceeding without perceptible relation to it, nay, traversing it freely, we may affirm the fact to be true of what are called malarious fevers. These present a variety of types; they are remittent and intermittent; quotidian, tertian, and quartan, with duplications, reduplications, and interchanges, of great complication and intricacy, yet always preserving a well-defined course, and easily unravelled if carefully attended to. The quotidian has much analogy with the ordinary movements of

the human system, and is hence the type commonly assumed by fevers which attend upon incidental irritations and modes of disturbance, also in all hectics. A good illustration of this influence is given in M. Brachet's account of the production of an artificial intermittent in himself by plunging into cold water at a fixed hour for several evenings in succession.

The tertian departs abruptly from this analogy. "There is," says Watson, "no known bidual habit in health." Perhaps we may fairly regard as an exception to his remark, the habit of alvine evacuation on alternate days, which seems perfectly natural to some men who enjoy good health. But this is unimportant. In some of the lower classes of animals bidual habits are said to be noted. Knox tells us that in the wild goose, swan, and duck tribes, an egg is laid only on every second day.

We lose all hold upon any normal clue in this labyrinth, when we reflect upon the superposition or accumulation of paroxysms so often observed—the herosthesis of the ancients, the tertiana duplex et duplicata, where each day shall present its access of fever, yet evidently not quotidian, but a tertian repeated, or rather *two tertians;* or one day shall be free from fever, and every other day be burthened with two paroxysms; or as in the triple tertian, not very frequent, but occasionally met with, I suppose, by every extensive practitioner in malarious countries, where two paroxysms mark every alternate day, a single access presenting itself on the less unfortunate days. For such extraordinary phenomena, so far removed from all correspondence with any normal actions of the organism; for such striking and impressive, and novel effects, we must seek some adequate, novel and relevant cause.

The quartan, which rarely in our country commences as the original or primary type of an attack of intermittent, is usually considered as most remote from any familiar or incidental analogies. Its history is, indeed, singular. In thirty years of practice in a malarious region, I have met with but two cases beginning with this type; both in young persons

between eighteen and twenty-one, one a male the other a female; both in the better conditions of life, and as little exposed as any residents in such a region could be. In general, the quartan makes its appearance as a degenerate tertian or quotidian. From either of these it is formed in the same mode, that is, by the loss or elision of two paroxysms, upon or after which there commences the new interval or train of progress. The extreme obstinacy of this mode of intermittence, or rather recurrence, is matter of universal notoriety. I saw, in 1817, a case of quartan of15 years' duration brought to a close. Some few years since a gentleman placed himself under my care, who had not missed his quartan paroxysm once in 18 months. The books were formerly filled with such instances; now, happily, no longer to shame the profession. The subjects of these tedious quartans are often apparently in very good health in every other respect; stout, robust, corpulent, athletic, with good appetite, sound digestion and ready assimilation, performing with alacrity all the duties of life, and enjoying all its pleasures.

The connection of the remittents of malarious districts with each other and with intermittents is undenied, and I believe undoubted. The analogies of movement presented, vary in different instances; but I believe in general they will be found to refer to the tertian rather than to any other types, the remittent persistence being attributable probably to some organic change in the condition of some one of the viscera; the abdominal contents being chiefly affected, the liver, I doubt not, in the great majority of cases, the spleen almost always, the mucous digestive tissue not unfrequently. Perhaps the same tenacity may be given to the attack, which would otherwise intermit, by congestion, irritation or inflammation of the vascular apparatus, the lungs and their appendages and the cerebro-spinal axis with its membranes. We can often trace throughout the whole history of a case, a correspondence with the periods of the double and even the triple tertian.

Let us take a cursory review of these facts. Of a certain

number of persons residing at a particular spot, a proportion, in many places a large one relatively to the whole, shall be annually seized with periodical fever. The type will not in all be the same. Some will suffer from a fever continuous in duration, but notably and regularly subject to variations in degree of intensity, and in the concurrent phenomena. Others will be assailed daily by a paroxysm coming on at a fixed hour and subsiding after a certain duration, leaving an interval of freedom from fever for a part of the day. In others this interval will last a whole day and more, only a portion of every alternate day being annoyed with the febrile access; and yet in others, still more fortunate, there will be two days of comparative, nay, sometimes apparently absolute health, to one disturbed with fever. It is agreed to ascribe all these diversified attacks to one identical source, of whatever nature, because the types not only occur together under precisely identical contingencies, but they are all convertible and frequently converted: the remittent often subsides into an intermittent, as a stage of convalescence, or in seeming convalescence, takes tenacious hold as an intermittent, the quotidian and tertian degenerate, as the common phrase is, into an obstinate quartan.

The given locality in which all these things happen, is sometimes narrowly limited and well defined; they take place in the genial months of the year; they seem to be relevant rather to season, however, than mere temperature, being frequent in the coolest spring, summer and autumn, and infrequent or exceptional in the warmest winters.

I will not dwell upon the proofs of the identity of cause and nature alleged to be deducible from the organic changes impressed by these several types. Our morbid anatomy of fever is still unsettled. Broussais found the seat of intermittent in the mucous membrane of the digestive tube, Schultz and Maillot in a lesion of the cerebro-spinal axis, and Piorry loudly maintains the exclusive rights of the spleen; while Stewardson calls our attention to a special change of appearance in the liver as uniformly belonging to the history of a malarious remittent. For my part, I hold with Fordyce,

who pronounces fever to be a disease of the whole system "*in every kind of sense.*" It is indeed a turbulent congeries of irritations, congestions and inflammations; it disorders always with congestion, and not unfrequently with consequent inflammation, every abdominal viscus, the spleen uniformly more or less, the liver also at some period of its unarrested progress; and the digestive surface of course, directly or secondarily. Nor can the kidneys escape when the skin is corrugated and its functions suppressed, or heated and dried in every scale; the lung yields somewhat less readily than the spleen to the congestion of the cold stage, but recovers from it with more difficulty, and inflicts more constitutional injury by its morbid condition while its important offices are impeded. As to the cerebro-spinal axis, the splenic plexus—nay, the whole sensorial tissue, ganglionic or cerebral, the cerebellum or the great sympathetic, nothing can be more inevitable than that they all must be involved in the wide-spread derangements, vascular, secretory and excretory, derangements of condition and function and composition of solids and fluids, which go to constitute in detail the full history of a febrile paroxysm. Yet I think there would be no great difficulty in showing that the effects or permanent influences of all these types of malarious fever, whether exhibited during their protraction in obstinate modes of ill health, or during the successive stages of convalescence, or in the autopsy of fatal cases, are closely analogous, extremely similar, or absolutely the same; and that they differ from the changes impressed by all other forms of fever known to us, arising from whatever sources.

Now it seems to me logically fair and correct to reason backward here, from effect to cause, and from the peculiar and specific character of the effects to infer a relevant specific and peculiar character in the cause. Incidental influences of familiar nature, acting in excess or by unadaptedness, produce impressions cognizable by their resemblance to those which they normally excite, the difference being in degree alone. But here, new movements have been origi-

nated, rythmical, so to speak, and tenaciously preserving a regularity which corresponds with nothing belonging to the healthy processes of the system: there is besides, something in the mode of causation of each case, which decides the train of movements in that case, making the periodical revolution diurnal, bidual, or tridual; bringing on a chill in one every day in the morning, in another a similar chill at noon every second day, and in still another in the afternoon of every third day. In one the head shall be prominently affected, in a second there shall be vomiting and tormina, and in a third the spleen, or liver, or kidney, or spine, shall be the seat of painful engorgement or inflammation. A fourth shall have no repetition of the chill which usually ushers in the paroxysms, but be regularly re-attacked at precise intervals with fever, commencing with the hot stage, or shall enjoy no absolute intervals, but suffer from a continuous hot stage, varying in degree of intensity, and in its undulations of violence exactly corresponding with the movements of some one of the types which intermit. This endless variety of identical or closely analogous impressions, preserved so often with an almost indescribable exactness through the whole duration of certain cases; in others, again, palpably intermingled, as though one attack of fever were removed or one superadded upon that or those previously existing—all this I say, irresistibly leads me to the belief of a specific cause, a poison acting peculiarly and characteristically upon the organism in its own exclusive mode.

This belief is strengthened by reflection upon another of the most notable circumstances in the history of malarious fevers. There is, as is well settled, a fixed period of time between the efficient exposure to the cause, whatever it may be, and the first access of definite disease. Sometimes the health of the subject is entirely undisturbed during all this time; occasionally there is gradual deterioration and progressively increasing ailment. Rarely, this imperfect derangement is persistent or protracted indefinitely, and seems to wear away or subside gradually, unless some exciting

cause shall disturb the system and arouse the latent disease. But all incidental morbid causes act upon the system directly when applied; they may require, it is true, some continuance of application, some accumulation of impulse or impetus to overcome the elastic resistance offered by the vital forces, but when this acme is reached, they produce their results without delay or interval. Specific causes, on the other hand, all need time for the gradual maturation or development of their influences. It is probable that by increase of amount administered, or by intensity of concentration, they may be made instantly efficient; but this is the exception, not the rule. We read of malarious fevers ensuing at once upon exposure, but in this country we see none such. A *latent period*, very distinctly marked when the exposure has been transient, and I believe, always relevant to and corresponding with the *intercurrent period* of the type to be assumed, passes away before the access of fever. In our southern lowlands, this latest period is seldom less than one week, or greater than three in duration, but the books give us many histories of its being indefinitely lengthened, as in the unfortunate Walcheren expedition.

In this part of its history, malarious fever certainly resembles the specific contagions, which require a definite time for the development of their influences. Let it be observed too, and this is another point of similar analogy, that a continued application of the same agency—as by residence in the locality supposed to be of morbid force—does not increase the violence of the impulse or effect, any more than continued exposure to the contagion of small-pox or measles, or the introduction of a larger quantity of virus by inoculation will increase the force of their attack. It is equally violent, if after efficient exposure we remove the subject far away; nay, it is a common opinion in the South, and one founded upon long experience and large observation of facts, that an attack which follows removal from the malarious atmosphere during the latent period, is apt to be decidedly more violent and dangerous than if the subject had remained where he received the "seeds of the disease."

2. It may now seem unnecessary to press the argument of the inadequacy of incidental causes to originate the marked phenomena of which I have been speaking, but let us consider it for a moment. If we observe the patient beginning to succumb to the febrific influences at noon of the hottest day of summer, in a hot climate, we shall find him shivering, with his skin shrunk, corrugated and chilly, while he complains of the sensation of profound cold, the thermometer standing at 80° of Fahr. or above it. The most ingenious and able opponent of the hypothesis of the existence of a febrific poison, known or unknown, such as we for convenience' sake designate malaria, Dr. J. Bell, of Philadelphia, regards the familiar variations in the notable conditions of the atmosphere, alternations of temperature more especially, as the efficient causes of the so-called malarious fevers. But in the low country of the southern United States, where these fevers abound, we meet with them in masses, during the warm months of the year, from May inclusive, annually. In most seasons the heat is then protracted and steady, presenting in many of the most sickly localities little variation in the course of the 24 hours. The coolest portion of the whole, (the few hours between midnight and sunrise,) is spent in bed, in a more or less sheltered condition; and few expose themselves until the temperature of the air is raised by the presence of the sun, and that of the body by food. For weeks together the heat of the body is not subjected to a variation sufficient to produce a sensation of coolness, except in those who sleep in the open air or those who bathe in cold water. But these are not known to be more frequently attacked by fever than others; nay, the cold bath is by many considered prophylactic, and the black, who often sleeps out of his house, is less liable to be assailed than his protected master. Again: the month of June, presenting a high average temperature, is remarkable for its impressive alternations. Here we are apt to find the hottest day of the year; here, also, we have some cool weather with annual certainty. The "sheep storm," "the cold week," are familiarly spoken of, as to be usually

expected; a change attributed by one of our most observant meteorologists, I know not how correctly, to a temporary extension of the range of trade winds along our coast. During this very week, (June, 1849,) the thermometer has ranged from 54° to 96°, and on one day from 70° to 92°. Yet June is one of the healthiest months of the year; indeed, the bills of mortality in our Atlantic cities will probably show fewer deaths in June and July than in any other two consecutive months. Certainly it is not marked by any special prevalence of periodical or malarious fevers, nor is their number increased during the cold spells to which I have referred.

Farther: it is matter of notoriety, that in the malarious neighborhood of the city of Charleston, S. C., our most salubrious winds in summer and autumn are those from the east, because, as is supposed, they bring us a pure air from the ocean. They are moist and chilly, however, and excite catarrhs, and rheumatism, and croups, in children and invalids, but they lessen the frequency of our climatic and periodical fevers. These two sets of diseases seem to be placed in a sort of positive contrast to each other instead of being allied, as maintained by Dr. Bell, who says, that "in the winter, a man who gets cold contracts angina—in spring, pleurisy—in summer, cholera-morbus or bilious colic, remittent or congestive fever—in the fall, intermittent"; and that "periodical fevers are most frequent and violent in climates, and localities and seasons marked by the greatest contrasts and alternations in the sensible states of the atmosphere." He adds, also, "worse by far than inspiring marshy air in autumn will be sleeping one night between damp sheets."

Let us inquire, then, where the greatest contrasts and alternations in the sensible states of the atmosphere are found in our own country, and the relation of malarious fevers to these changes. Along the low lands of our southern coast, from the Rio Grande to the Housatonic, these maladies are of frequent occurrence; unfailing in regularity and terrible in violence as we proceed southwardly. They are not met with on the Merrimack or the Connecticut; they prevail fiercely

at the mouth of every river opening into the Gulf of Mexico. Now, taking either the annual or the daily range of the mercury, we shall certainly find the thermometrical changes most impressive north of the Hudson. Of the alternations in barometrical and hygrometric conditions, we are not informed.* Let us, again, compare the valley of the Housatonic, or any other river in New-England, with the low lands on Broad or Tiger in South Carolina. I will not speak of Cooper or Ashley, or Savannah or Pedee, whose banks are deadly to the white man in autumn. The sensible atmospheric contrasts are quite as great, nay, decidedly more marked, in the former; the winters of the midland southern country are milder, the extreme heat of the summer noon not greater, nay, not so great; the day no warmer, and the nights by no means so refreshingly cool; yet there we find, with less sensible alternations of atmospheric condition, a constant prevalence of periodical fevers, unknown to our northern brethren.

I know no region so perfectly free from these fevers, and indeed from all affections enumerated among the malarious, as the beautiful and healthful plateau which lies in Henderson and Buncombe counties, North Carolina, between the Alleghanies on their western slope, and the French Broad river or Saliko. In this earthly paradise, human health is at its

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* The country around Boston is liable to more and abrupter variations of temperature, whether we compare those of the several seasons of the year, or the diurnal changes in every season, than the neighborhood of Mobile, Augusta or Savannah. It should, therefore, upon the theory I am combatting, be liable in greater degree to malarious fevers, but it is both comparatively and absolutely free from them. I know not that the island of New-York differs materially in climate from Staten Island; it is said that the nights are cooler on the latter, from the sea breezes. They are almost of the same geological structure and soil, or at any rate there is no strong contrast; but the difference between them of liability to intermittent fevers is very great and familiarly known.

In Farmington, Conn., where I am now writing, (June 23, 1849,) the winters are long and very cold; the summers, though short, are very hot. In the most sheltered parts of the house, the thermometer for the three past days has risen to 90°, 92°, and 92°, Fahr. The daily range is often great; it was yesterday not less than 22 degrees, being 70° at 6 A. M., and 92° at 3 P. M. During the week it has varied 42 degrees. Here, then, we have as high heat as in the middle districts of South Carolina, or the western part of the State of New-York, and a cold altogether unknown to the former. We have also an impressive difference between the refreshing coolness of night and the noonday heats, which does not exist there; but here malarious fevers are absolutely unknown; there they are annually certain, and extensively endemic if not epidemic.

highest point, both during the cold of winter and the heat of summer. The soil is fertile along the banks of the river, and the air and water of unrivalled purity. But the climate presents impressive and rapid alternations. However warm may be the general noon, the nights are always cool. Where, then, should periodical fever prevail if not here, supposing it to be produced by these contrasts? Yet if the whole population of that "happy valley" should "sleep in damp sheets in autumn," not one would be attacked by intermittent or remittent fever. Such an attack has never happened to any resident there since the first pioneer settlement was made on the expulsion of the Indians. Yet these fevers show themselves there sometimes, and in their most violent forms too, in persons who travel thither from the low lands of Georgia and the Carolinas on one hand, and of Tennessee and Kentucky on the other. I saw two such there; one was a distinguished statesman and orator, destined, had he lived, to the loftiest elevation, nay, already elevated to an acknowledged equality with the highest. His valuable life was sacrificed by the exposure of, probably, a single night only in a malarious locality, about a fortnight before he was assailed by a malignant remittent. Of the hundreds or thousands who pay a yearly visit to this delightful region, subjecting themselves to the strikingly impressive contrast of the temperature of this elevated mountain country with the steaming plains of the Atlantic coast, or the close valleys of the western rivers, it is very seldom indeed that any one who, on his journey thither, has exerted common prudence in the avoidance of an "unhealthy" locality—a malarious spot, for his night's sojourn, has been assailed there. Residing there several summers, I knew of no more than two of this kind, already montioned, both of them distinctly referrible to conscious exposure. Contrast this liability from sensible atmospheric alternations with the risk so well understood in our southern country. If any man of the white race should sleep in the dryest sheets, in the most comfortable apartment of any house on any rice plantation, in the most balmy summer or autumn

night, in our southern low country, selecting the season of most steady temperature and greatest freedom from other vicissitudes, I would not hesitate to insure him, for a very slight premium, an attack of malarious fever. If he repeat the experiment a few times, his chance of escape would be annihilated. I appeal to my southern brethren whether I have stated the facts at all too strongly; the inferences to be drawn seem to me clear enough, that atmospheric alternations are inadequate to the production of the familiar effects and that certain localities must possess some obscure but most efficient morbid agency.

Lastly. The well-known modes of limitation of malarious diseases, to which I have slightly alluded, are apparently inconsistent with the action of "the obvious and patent, the plain and easily found" atmospheric influences dwelt on by Dr. Bell. For example: the city of Charleston; Savannah; the town of Beaufort; Aiken; the village of Walterborough; Edding's bay, on the sea shore; Sullivan's Island, in the estuary of Ashley and Cooper rivers, and Whitesville, with a thousand other safe summer residences, and "pine land settlements," as they are called, are known to be *absolutely* exempt, or nearly so—*comparatively* so in the highest expressible degree—from the endemical fevers which ravage our whole southern low country. *Sleep* within well defined precincts at each of the above named points, and you may indulge yourself with impunity in daily rides and walks in every direction around; venture to sleep out of the "charmed circle," and you will be assailed by periodical fever almost as certain as you will be vomitted by ipecac., put to sleep by opium, or rendered insensible by ether. I cannot admit that the influences which thus act, or fail to act, are by any means "patent or obvious." Some of the points mentioned as healthy are remarkable for their atmospheric moisture; others for the impressive and agreeable contrast which they present in the refreshing coolness of their nights, after burning days of glare and sunshine. This is strikingly true of Sullivan's Island and Aiken; one of which is noted for a high, dry air,

the other for a very damp atmosphere. Let any one compare them with the upper portion of New-York island, climatically, and point out, if he can, in what atmospheric condition, thermometrical, barometrical, or hygrometric, consists the difference between them, which renders the latter so much better situated in so many respects, so much more liable, nevertheless, to periodical, malarious, intermittent fevers. Nay, I think it would be difficult upon any "obvious" grounds, and setting aside the hypothesis of a specific poison, to explain the immunity of one end of Manhattan Island and one end of Sullivan's Island, and the alleged liability of the other end of each to this class of diseases. I have not laid any stress here upon the stories told of the liability of one side of a street or road, one side or one room of a house, nay, one side even of a ship, to these fevers, while the opposite side was free; nor upon the immunity of a ship's crew stationed a cable's length from the shore, while those who ventured after night on land were assailed; nor upon the occurrence of ague in the fœtus; all which rest upon very fair authority, and if true, are absolutely unaccountable upon any known or obvious modes of causation. The literature of malaria has been made almost as wonderful as that of mesmerism, and all who are sincerely anxious to arrive at the truth should be particularly careful upon what evidence they admit such facts as the above, some of which are probably true, but ought to be more clearly made out and more strongly confirmed than they yet have been.

3. The third argument for the specific nature of the cause of periodical fevers is drawn from the peculiar efficacy of the great specific cinchona. Like all other diseases, it is true, these present infinite diversities of grade and tenacity. Many cease spontaneously, many are easily arrested by any mode of interference and perturbation, bodily or mental, moral or physical. Fear, hope, joy, disgust, faith, on the one hand, on the other, venesection, the cold and hot baths, emetics, purgatives, bitters, opiates, all cure intermittents. In some districts, whiskey is the great remedy; in others sage, the ancient panacea—"*Cui moriatur homo, cui salvia crescit in hortis,*"—

is implicitly trusted to. Dogwood, logwood and spider's-web have their undoubting advocates. Remittents, however closely allied in cause and history, have been found much less manageable, and indeed, in some of their varieties, constitute very terrible forms of fever. What is most singular, however, is the fact that some of the worst of these, the most fatal in themselves, are most amenable to one particular remedy, and thus the mortality and obstinacy of the attacks are found to be, if not contrasted, at least not correlative. The true explanation of this apparent paradox seems to be, that ordinary remittents are apt to present certain complications which modify their character so strongly as to remove them from the relevant adaptation of the specific above alluded to—cinchona. Determinations to particular organs, highly irritative, inflammatory and quasi-inflammatory, are mingled with the febrile condition from the onset, which interfere with, control, or prevent the peculiar effects of the great febrifuge. Under these circumstances, in which, for whatever reason, the immediate administration of quinine is not followed with certainty by immediate benefit, as we know no other specific to substitute for it, we lose time of necessity, in efforts which differ among the several classes of practitioners, to remove, or palliate, or counteract these superadded local derangements, to which many attribute the continuousness or pertinacity of the paroxysm, and its tendency to throw off, or exhibit less and less clearly, the character of periodicity originally belonging to it. If we succeed in these efforts, and procure an intermission or a marked remission, we put an end to the attack, without farther delay, by a full dose of quinine. Nay, it has become the rule not to wait always for such change, but to experiment with the great remedy even in the most unpromising cases; and this is often done with the most gratifying success. But no such preliminary management is necessary when the case, however violent, is from the first, of merely congestive character. You need not here delay a moment. Cinchona alone is requisite, it is almost uniformly successful: in bad cases it is the only thing

that offers any reasonable hope. So also in intermittents, pernicious, malignant, congestive, it is almost all-powerful. The first interval is enough; if the first paroxysm is not fatal, your patient will probably recover, provided you are well supplied with quinine and fearless in its exhibition. There is no single point on which the medical profession, in all its divisions and subdivisions, is so fully agreed as this. The worst cases, if simple and unmingled with complications, will yield to this remedy, and to nothing else. The mildest cases, in which its influence is disturbed or set aside, will prove obstinate, and may be fatal. The former are most purely febrile—we say malarious; and we infer a certain relevancy or definite relation between the causative poison and its antidote or counter-agent.

This relation or relevancy is farther shown, and very impressively too, by the influence of cinchona as a prophylactic. This influence is not exerted through the medium of any notable or observable effect upon the system, but most obscurely. There are other remedies known as prophylactic doubtless: alcohol perhaps, and if so, by its stimulant property: tobacco perhaps, and if so, as a narcotic; opium, perhaps, and in the same manner more efficiently; sulphur, as is alleged, and if so, as a purgative and diaphoretic; turpentine, tar-water, and the like, and if so, by their diuretic action. But small doses of the sulphate of quinine, which, so far as is "patent and obvious," impress the organs and functions in no discernible manner, affecting neither the circulation, secretions, nor excretions, will enable the subject safely to undergo exposures otherwise fatal.

It is curious to remark, too, that cinchona, which thus interrupts the progress of periodical or malarious fever, arrests it when forming, and even prevents its access, fails to act permanently upon the singular predisposition to recurrence which belong to its history. There is no disease so strongly disposed to return as this form of fever; yet no patient relapses while quininized, though many are attacked again as soon as quininism subsides. In other words, the influence of

the febrific poison upon the constitution, though less forcible, is more tenacious and persisting than that of the antidote. Fortunately we are in possession of another remedy, in which these qualities are, so to speak, reversed. The experience of the best European authorities, which coincides with my own, goes to prove that arsenic far more completely obviates the tendency to recurrence of protracted intermittent than quinine, while it is infinitely less efficient and useful in the management of the disease when present.

The facts, then, which, at the risk of some repetition, I have thus brought together, will, I think, if carefully considered, be found abundantly to establish the position that the cause of periodical fever is a specific poison :—

Its influences or modes of development are peculiar and characteristic :

Its phenomena are not explicable by reference to the agency of any known causes :

It is controlled only by the obscure, undefined and unintelligible action of specific remedies.

The next step in our discussion leads us to investigate the nature of this specific poison—to inquire whether it is organic or inorganic; animalcular or of vegetable growth; an effluvium or a gas.

The received hypothesis of the existence of any such agent, whichsoever of the above suppositions we may adopt, is full of difficulty, it must be admitted. The embarrassments which hang about it are dwelt on and well displayed by several recent writers, at the head of whom stands Dr. Bell, of Philadelphia, already frequently spoken of in terms of cordial and well-deserved respect. It remains to be seen whe ther any substituted hypothesis is more explanatory, freer from difficulties, or better entitled to our belief.

The views of Dr. Bell, like those of Prof. Dunglison, are rather negative than positive; they express dissatisfaction with the current opinions, whether, as laid down by Lancisi, or Macculloch, or Ferguson, but propose nothing definite in their stead. The position taken by the first named author

since 1825, is maintained (in 1849) by Dr. Gayles, in a very instructive essay in the American Medical Journal for January, carrying out the argument in minute detail, and collating with great industry a large mass of valuable facts.

In 1828, Dr. Jones, of Georgia, reproduced in terms the ancient theory—"that *moisture* under different states of temperature, acting upon the human frame under different states of the cutaneous functions and muscular relaxation, is to be regarded as the sole cause of intermittent and remittent bilious fevers." This axiom is definite enough and comprises all the points labored by the writers above mentioned. It is easy to show that it is overlaid and encumbered with objections quite as great as those which it is offered for the purpose of evading. The low alluvial lands of Louisiana, free, according to Nott, from these fevers; and her bayous, remarkable, according to Cartwright, for their salubrity, abound in moisture. The same assertions are made concerning the extensive tracts now under drainage by the State in Hyde county, North Carolina, and the great Dismal Swamp. In the vast extent of country included within these limits, moisture must surely have an opportunity of acting upon the human frame under all different conditions imaginable. If then, these fevers are not numerous and vehement there, something else is wanting to their production.

Equally untenable is the contrasted doctrine advocated by Ferguson,—that "*paucity of water* where it has recently abandoned is the only contingency necessary in a warm climate, to the production of malarious fevers or their cause." In Africa, as travellers inform us, the very termination of the dry season, the very commencement of the rains is the precise period at which fevers begin their sway; the influence of the abundant moisture descending through the hot air being felt, as we are told, at once, or in an almost incredibly short time. In our own country it would be idle to speak of paucity of water, either absolute or comparative, in reference to our inexhaustible lakes, ponds and inland swamps, in the neighborhood of which malarious fevers annually prevail.

Of the electrical causation of these fevers suggested by Murray and others, and the modification proposed by Folchi, usually alluded to as the thermo-electrical theory, in which the whole train of phenomena are ascribed to the combined influences of abnormal calorification and disturbed electrical equilibrium, I shall only say that they are presented to us in too vague and indefinite a shape to justify our admission of them. The vast proportion of the earth's surface affected; the great diversity of soil, climate, weather and indeed all atmospheric contingencies with which the presence of these fevers is associated, preclude the possibility, it would seem, of any similar thermal or electrical states, either of the air or of the bodies of those attacked. Yet the facts accumulated in support of these views are interesting, and may be destined to assume a greater degree of importance in the future discussions of the subject than we can venture to accord to them now.

The gaseous nature of the cause of periodical fevers has been ably maintained by Professors Gardner and Daniel, who consider it to be sulphuretted hydrogen. In a very ingenious thesis, recently presented to the New-York University by Dr. Leavenworth, the claims of carbonic acid are strongly set forth: and several of our western brethren are satisfied that the evil agent is nothing but carburetted hydrogen. Not to enter minutely into the controversy, I will merely state that an insurmountable difficulty in the way of either of these suppositions lies in the great variety of localities and circumstances geographical and geological in which we meet with the effects of the alleged cause. We find these fevers on the cold fens of Holland and Lincolnshire, as well as the rich rice fields of the sunny south; on the smiling hills which overlook the majestic Hudson, as well as among swamps and marshes; on the lime rock of Tennessee and Kentucky, the clay of Alabama and South Carolina, the sandy barrens of her northern sister, and the granite and sienite of the Empire State; on the volcanic tufa of Civita Castellana and the Roman Campagna, and in the very crater and on the sides of

extinct volcanoes, as at Bolsena and Milo. If sulphuretted hydrogen be eliminated in an African jungle or on the borders of a sluggish creek in Virginia, whence does it arise in some of the contrasted localities so often enumerated? Why is not fever, on one hypothesis always endemic at the White Sulphur and Sharon Springs; and on the other at Saratoga, Seltzer and Vichy? Why is not the presence of some of these gases always demonstrable in a malarious atmosphere? Having ascertained the poison, why cannot we at will produce with it an attack of fever of one of the known types—in other words, how is it that the observed morbid effects of none of the irrespirable gases resemble any known form of fever?

We are encouraged in our search after atmospheric influences as causes of disease since the discovery of ozone by Berzelius, and the observation on the part of Schöenlein, of its presence in the air during the epidemic prevalence of influenza. Of this widely-extended and most familiar malady it really seems to be one of the efficient sources. In this country too some of our professors have ascribed to it, hastily I apprehend, the generation of cholera. If this active state of the atmospheric oxygen does really produce influenza, we must not omit to remark its relation to that well-characterized intermittent affection of the frontal sinus and antrum, of which I spoke above, and which is of so frequent occurrence, so painful and annoying, and so obstinate that I wonder at its having received so little attention from medical writers. Some I think allude to it vaguely as "a masked intermittent" classing it with neuralgias; others have probably referred to it under the title of "brow ague." I have found it, though not readily yielding to any remedies, yet on the whole, best palliated and controlled by the free use of the sulphate of quinine.

The following objection seems to me fatal to all the above hypotheses of causation equally and alike, unless when they admit of being resolved into the familiar belief of a specific poison, paludal, or fungous or animalcular. All patent and

obvious agencies "must produce, logically, patent and obvious effects." Changes of temperature must make notable impressions on the system; irrespirable gases cannot be breathed without notable inconvenience or derangement of system. But when a poison is applied, it is absorbed and retained, and passing into the organism, finds in due time a reception upon the tissues, or within the fluids it is adapted to affect, if inorganic. If organic, a single dose may be large enough to be promptly efficient, but more generally an interval is required for its increase, propagation and multiplication. These are principles upon which I need not dwell. Let a subject visit on a pleasant summer evening a field in our southern low or middle country, especially in the neighborhood of a rice-reserve or a stream, and sleep there; or let him rest under a tent in the desolate plain near the ruined temples of Pæstium; he may rise the next morning in undisturbed health, and continue perfectly well for a fortnight or three weeks, and then without warning, fall suddenly a victim to an overwhelming attack of fever, congestive or inflammatory. To render this mystery, if possible, still more mysterious, and laugh to scorn all attempts at explanation by an imagined accumulation of carbon in the system, a gradually augmenting determination to or congestion in the portal vessels, the vena cava, the vessels of the spleen, of the cerebro-spinal axis, or of any other organ or tissue, let such a subject, a few hours previous to the explosion of the febrile symptoms, take two or three full doses of cinchona or quinine, bringing on some fulness of the head, some buzzing in the ears or dimness of vision, and he will—with as much certainty as any thing established in therapeutics—escape the threatened attack; or avert a second if he has been surprised by a first, and favored with an intermission. But the counter-poison here employed is not known to eliminate or discharge any thing from the body by any outlet; we cannot affirm that it promotes the excretion of retained or accumulated carbon, hydrogen or nitrogen, through either the lungs, the liver, the kidneys or the skin; and yet it is a remedy infinitely more

available than the most active evacuants or so-called depuratives. Nor is it easy to conceive how it corrects the morbid impressions made upon the organism, either thermally or electrically; its influence seems purely antidotal, and implies the previous presence of a definite poison.

We have increased gratuitously the obscurity of our present inquiry by the universal habit of ascribing too much to the agency of a cause whose very existence is matter of inference, however rational and logical that inference may be, and its alleged source and nature altogether hypothetical. Ferguson and Bancroft, and many others, Trevin among them, confound yellow fever with malarious diseases; Cook places typhus here also; and some Western writers have not hesitated to include cholera asphyxia in the same category. The ridiculous extension of the list in Macculloch needs no comment; but I will content myself with stating my belief that we have no right in this controversy to refer to any other morbid affections than intermittent and remittent fevers, in which periodicity is the prominent element, and in which the observance of regular type and period can be clearly traced, calculated and predicted. Even hepatitis, dysentery and dropsy, so familiarly comprised under this head, should, in proper strictness, be rejected as at least doubtful; nay, as in all probability, the secondary effects of malarious fevers, or the result of coincident contingencies. It is but a single summer since an epidemic dysentery of great virulence and large proportional mortality prevailed over a vast extent of territory, from the Lakes and the St. Lawrence to the Atlantic coast; from the Merrimack to the James river; affecting many districts celebrated for their usual healthfulness, and especially portions of New-England, hitherto free from the suspicion of malarious impurity, and unconscious of intermittent fever since the incursion of the Pilgrim Fathers. If we ascribe this disease to malaria on the banks of the Delaware and the Potomac, what shall we say gave rise to it along the rocky shore of Connecticut, or on the cold and barren soil of the interior of Rhode Island?

The strength of the argument in favor of the *organic nature* of malaria lies in the history of the latent and intercurrent periods of the fever which it produces. It is easy to show the failure of the received views to explain these phenomena; indeed all pathological writers feel and acknowledge frankly this defect. Now, if we suppose with Prof. (J. K.) Mitchell, an organized germ of vegetable character introduced, *qua data porta*, into the system, we may well imagine that its growth and multiplication will require a certain progress of time, during which its reproduction will augment the quantity of deleterious matter into an efficient dose. Thus we account for the incubation of the attack. We further imagine then, either the death of the first generation of fungi, or the elimination of the great mass of them through some of the emunctories, to explain the interval of intermission; and the birth and development of successive generations to render intelligible the long train of tenaciously recurring paroxysms. We imagine too that the several types of intermittent are owing to the variety of forms of cryptogamous vegetation, some of which propagate in one period and some in another. This hypothesis is indeed most ingeniously conceived and ably maintained; it is supported by a large mass of facts, to which accumulations are almost daily making and will apply, as stated above, to a great portion of the history of malarious fever. But it does not entirely escape or surmount all the difficulties of the subject—nay, some remain which threaten to be fatal to it, notwithstanding all the genius and learning which its author brings to its support. Thus, for example, the relations of malaria—be it what it may—are strongly, and as regards its generation and production, exclusively to *place*. But it is just as tenacious in its adhesion to the person of its subject; it seizes upon him often after very brief exposure; it enjoys within the animal or rather exclusively the *human* organism a congenial habitat where it finds all the material of growth and reproduction, and from which it is dislodged with great difficulty. Except in this relation to person, it is not transferable; it is never transported by any

known mode, any variety of fomites, nor when produced in one patient does it affect another by any closeness of propinquity. But if propagated within the body, tenacious of life as it is, how can it fail to pass out through some of the emunctories into the air surrounding it; and if diffused therein, how can it fail to attack a subject just as readily as when propagated or created out of the body? This never happens, however, and if it did happen, would be contagion or something closely analogous.

Again, the books are full of wonderful stories of the fixity of malaria on certain occasions, though at other times easily wafted on the wings of the lightest zephyr. We read of one side of a road, a street, a house, a ship, being sickly while the opposite is quite free from fever. These interesting curiosities of malarious literature are as well attested as other wonders of nature, but as I have already said, require examination and confirmation, at any rate, every one is aware of the apparently capricious action of the cause of periodical fevers, whatever that cause may be. The received theory is the butt of much sarcastic criticism in reference to this matter; but it does not seem to me to enjoy by right a *monopoly* of the taunts lavished on our ignorance of the details necessary to a clear and full understanding of this grave topic. If malaria be fungous, it must either be breathed or swallowed, absorbed by the pulmonary or gastro-enteric mucous membrane, or by the cutaneous surface; for all this, it must be diffused in the air. When thus diffused, why does it not cross a road or street, or piece of water, invading a ship "a cable's length from the shore," or spread throughout a house, a vessel's hold or cabin? Odors and dust are thus spread; smoke and vapors disperse themselves; gases permeate each other; why should not fungi, smaller than some of these particles, larger than others, obey the movement of currents of air in which they are floating?

If, with Dr. Nott, of Mobile, we adopt the animalcular nature of malaria as its most probable modus extendi, we are hedged in by the same difficulties. The supposed animalculi

are no less capricious in their voluntary movements than the inorganic effluvia of Macculloch and Bancroft. Generated in a given spot, they leave it readily to attack an individual; but when abounding in the body of one person they will not leave it to assail another. They show similar caprice of resolution occasionally in adhering to fixed positions mentioned above.

Dr. Nott recognises and points out the marked difference in many points between yellow fever and malarious remittents and intermittents, the former of which is clearly separated by cause, history, symptoms and effects, from all the periodical fevers. He renders highly probable the animalcular—he proves the organic origin of yellow fever. It is transportable in atmosphere, and in fomites. It is transferable not only from place to person like malaria, but from place to place and from person to person. It is strongly contrasted with malarious fevers by exhausting the liability to its recurrence; in this respect resembling other known contagions. Yet it is hard to understand why it should adhere exclusively to one side of a ship, or why, when it does make progress, this should occasionally be so slow and seemingly reluctant. In towns it extends its domain, sometimes quickly, sometimes otherwise; going "like the tax-collector from house to house," and thus gradually widening "the infected district." We may, it is plain, refer here to the independent volition, the action from inclination of creatures capable of choice, an explanation denied us as to a fungus or an inorganic effluvium. But we must take for granted prodigious strength of wing proportionally in these minute creatures to enable them, if they rise at all in the air, to resist the movement of a breeze or strong current.

It is by no means my purpose here to go over the trite ground of a defence of the views of malaria, which, with a large body of the profession I have received, and with which every reader must be familiar. My object has been merely to collate and compare the several hypotheses that have been offered; to show that none of them are free from intrinsic

difficulties; none of them fully explanatory; none of them entirely satisfactory. I conclude with the suggestion that the word malaria may still be very conveniently and properly retained to denote an unknown cause to which we ascribe certain effects, which as yet are not proved to be the result of any discovered or obvious agency.

ART. III.—*An Account of a Malignant Epidemic,* (Congestive Typhus,) *which prevailed in the early part of* 1849, *at and in the vicinity of Mecklenburg.* By NELSON NIVISON, M. D.

I PROPOSE, in this article, to give a short account of a malignant epidemic with which we have recently been visited. In doing this, I do not propose to give a description of a new disease; I believe it has been frequently recognised, and sufficiently described by many of our best American writers. Yet it is sometimes interesting to the profession to know to what extent, the time, and in what particular locality, a malignant disease with which we are already acquainted prevails; especially in view of the fact, that notwithstanding all that has been said and written upon this type of disease, there yet remains, owing to its having generally been confined to particular localities, a very considerable number of practitioners, who, if not entirely ignorant of its existence, possess but a very limited knowledge of its essential nature, its characteristic phenomena, and as a matter of course, of its appropriate remedial management. I confess that, although I had read copious extracts from Dr. Minor's Essay on "Typhus Synchopalis," "Spotted Fever," &c., and much of what has been said of "Cold Plague," "Typhoid Pneumonia," "Head Pleurisy," "Pernicious," "Congestive" or "Malignant Remittents," "Congestive Typhus" or "Typhoid Fever," and especially Dr. Dickson's account of an epidemic that prevailed in 1806, in Medfield in Massachusetts, whence it spread gradually, extending itself winter after winter throughout New-England, into Canada and the middle states, progressing from village to village, and from one portion of

the country to another, till, in 1813, it reached Philadelphia." I could form no adequate idea of the rapidity and certainty with which it sometimes destroys its victims, if not speedily arrested by the appropriate treatment.

The disease in question commenced its ravages about the middle of February last, some ten or twelve miles north of this place, in the adjoining county of Seneca, and in a very few days from the same time, a number of cases occurred in this vicinity, and especially some five or six miles south of us, and within a week of its commencement, it had visited all the intermediate neighborhoods. It was confined within the limits of a section of country some fifteen or twenty miles long in a north and south direction, and from four to six miles wide. This region of country presents nothing remarkable in its topography. It is situated principally in the county of Tompkins, in the midst of one of the finest agricultural districts in central New-York, about midway between the heads of the Seneca and Cayuga Lakes. It is neither level nor very uneven. If celebrated for any thing, it is for the richness and fertility of the soil and the general salubrity of its climate. The principal diseases which have prevailed within the last year, have been measles, whooping-cough, and general catarrhal affections, and during a portion of the year we had dysentery, bilious remittent, and in one or two localities, intermittent fever. I would likewise mention in this connexion, that during the month of March of the last year, there occurred in the immediate vicinity of this village, a limited number of cases of a disease resembling, in almost all respects, the one I am about to notice. In this instance, however, it seems to be strictly endemic, extending but a few miles from this place in any direction. The mortality that attended this limited number of cases was perhaps relatively greater than during its recent visitation. This may be owing in some measure, to the fact that physicians were less familiar with its phenomena, and consequently with its proper management. But I think it was mainly due to the fact of its having prevailed but a short time, attacking a limited number

of persons, and those few in a fearfully malignant form. Whereas, in the latter case, it continued to prevail to a greater or less extent for about three months. During the first month it was sufficiently malignant, but in the two latter, it attacked a much larger number of persons, and generally in a much milder form; during the last month of its prevalence it gradually became blended with other diseases, to which it imparted more or less of its peculiar characteristics, and finally disappeared altogether, so that towards the close, fatal cases rarely, if ever, occurred.

The disease commenced during the extreme cold weather of February, the mercury being from 12 to 20 degrees below zero. The persons most usually attacked were those in middle life and children, although no age seemed to be entirely exempt. It oftener attacked males than females. It would appear that a previous state of debility or indisposition had much to do in predisposing the system to an attack of this disease, and we think we are safe in assuming generally: whatever the essential cause of the disease may be, where it exists in a sufficiently active state to produce the disease at all, the *exciting causes* are those that tend temporarily to debilitate the vital organs, and thus cause them to perform their functions imperfectly. Hence the fatigue that results from over-exertion, was often followed by an attack of the disease. Mental anxiety was another exciting cause. But it is believed that no single cause contributed so much to excite the disease in persons predisposed as the protracted influence of *cold*. Persons who were necessarily much exposed, and especially those in the lower walks of life, who had not the means of affording themselves adequate protection from the severity of the season, were most frequently found among its victims.

Another evidence that the influence of cold had much to do in the production of this disease, was the fact that during the whole time of its prevalence, simultaneously with, or immediately following, a change from a higher to a lower temperature, was the occurrence of a considerable number of new cases.

The precise mode of invasion differed exceedingly in different cases, the attack not unfrequently came on without any premonitory symptoms whatever; usually however, it gave indications of its approach by symptoms, in many respects resembling those that precede the ushering in of an attack of an ordinary remittent, superadded to which, there was generally a feeling of extreme anxiety, oppressed respiration, of great and often alarming prostration, giddiness, extreme dulness of the intellect, not unfrequently the first indication of an attack was a severe *pain* in some part of the body, usually the extremities; sometimes it was confined to a single joint of a finger or toe. Soon the surface became cold, the extremities livid, the blood often left the superficial vessels of the face, giving the countenance a sort of *doughy* paleness. In some cases, numerous petechial spots made their appearance upon the face, neck, and surface of the body. The conjunctiva was usually highly injected; more or less pain was always complained of in the head, usually in the supra-orbital regions; this was often very severe, and accompanied, as it often was, with great intolerance of light and sound, and delirium, which was frequently wild and furious. It was often exceedingly difficult for the inexperienced practitioner to persuade himself that he had not met with a case of genuine phrenitis. Let him beware, however, of an error of this kind, for it would most assuredly be a fatal one. Violent clonic spasms were a frequent accompaniment of this pain in the head; often, however, the patient was comatose, and the symptoms approximated somewhat to those of apoplexy.

The pulse was variable, but alway weak, usually quite frequent, but sometimes remarkably slow, not being over forty in a minute. An intermitting pulse was often observed.

The tongue at the commencement was frequently considerably swollen; usually it was covered with a thin white fur, which became thicker and darker as the disease advanced; sometimes the tongue was clean and of a bright red color. Fainting, nausea, with occasional vomiting, was present; the ejections from the stomach being generally mixed with bile.

From a careful attention to the order of development of the symptoms, it would appear that the brain and nervous system were generally the first to suffer, and that the disturbance of the circulating and respiratory systems, were measurably the *results* of this nervous derangement. Often, however, the functions of all the vital organs were so nearly simultaneously affected, that it was difficult, if not quite impossible, to determine which was first in the order of sequence. Nor was it very material, for in the severe cases, the "congestive" symptoms increased in intensity, from hour to hour, with such rapidity, that unless the morbid train of symptoms was speedily arrested by the appropriate remedial management, a fatal coma, with entire insensibility, loss of circulation and respiration, speedily came on, and death closed the scene, in from six to twelve hours from the commencement of the attack. These extreme cases, however, were rare. In a great majority of cases the symptoms were more slowly developed, and in those cases a fatal termination in the early stages was by no means frequent. Usually, after the first shock given to the system had subsided, and reäction was established, a low grade of fever, characterized by more or less distinctly marked remissions, would follow for several days. This fever was always of a decidedly *typhoid* character. Active antiphlogistics were in no case tolerated. Sometimes prolonged and extremely exhausting cold sweats attended this stage of the disease. These were often extremely troublesome during sleep. If the patient was allowed to sleep a few minutes too long, the sweating was profuse, he was aroused with great difficulty, and awoke with a feeling of extreme exhaustion.

In some cases there appeared to be no *febrile* reäction whatever; it was only by the aid of the most active stimulation, that the vital organs could be induced to perform their functions at all, and often then in the most sluggish manner. Some cases were noticed, laboring under a severe form of this disease, in which the nerves of general sensibility were nearly paralyzed; for although the patients were hourly in

danger of losing their lives, no pain or uneasiness was complained of; the pulse could not be raised above forty or forty-five, the respirations twelve to fourteen per minute.

It may seem almost incredible, what enormously large doses of the most actively stimulating articles could be borne with impunity; from 20 to 30 grains of the sulphate of quinine, with proportionately large doses of camphor, carbonate of ammonia, alcoholic stimulants, etc., were often given in the course of twenty-four hours. One patient, that ultimately recovered, was kept in this active course of stimulation for many days in succession, often taking a pint of brandy in from four to six hours without any inconvenience. These doses were not only tolerated, but imperiously demanded. With all this, the surface was uniformly cool, often *cold*, never warm, unless warmed by artificial heat. On several occasions in the patient above alluded to, stimulants taken into the stomach and applied to the surface, seemed to have exhausted all power; the mucous surface of the stomach seemed to have lost its sensibility, and was no longer capable of absorbing or acting upon its contents; the most active stimulants produced no effect. The pulse rose rapidly from 45 to 130, then became intermittent, and finally almost imperceptible, the surface entirely cold. All that remained of respiration, was an occasional hurried, convulsive gasping or sighing. It really seemed that the patient must succumb. In this emergency, an enema composed of six ounces of brandy, with a strong infusion of capsicum, was given. This was successful in rousing to action the small amount of vital force that yet remained. Under its influence the stomach was again excited to action; its contents were thrown off by vomiting, which, by its revulsive effect, gave a new impetus to the nervous and circulating systems, under the influence of which the former sluggish action was restored, and things went on as before. A similar state of things occurred several times in the course of a protracted illness, during the whole period of which no local organic disease could be detected, and no febrile action established, the disease seeming to be through-

out its entire course of a purely adynamic character. This case, though no *fever* was present, was yet characterized by very distinct *remissions*. These remissions occurred in the morning, followed by exacerbations, (not of fever,) but of *prostration and debility*, which followed the course of an ordinary exacerbation of fever; in that it commenced towards noon, increased till evening, was greatest near midnight, and declined towards morning.

The *prognosis* in this disease depends mainly on the treatment. The prompt application of the proper remedial measures, was generally successful in arresting the disease and restoring the patient to health in from two to twelve days. Indeed, in most cases, even those of the gravest character, if a proper course of treatment be early *resorted to, and energetically and perseveringly applied*, little danger of a fatal termination need be apprehended, so long as the disease remains uncomplicated.

But it must be obvious to the pathologist, that so severe a shock as is given to the system during the cold, or congestive stage of the disease, cannot often be borne with entire impunity, and that the result must be a greater or less degree of organic mischief, and accordingly, we find cases protracted to an undue length by the occurrence of various *secondary* affections. The particular organ or organs thus secondarily affected, depends, of course, on the predisposition of the system, the weaker parts, making the least resistance, are soonest overpowered. A temporary suspension of functions, followed by a greater or less degree of inflammatory action, of a decidedly asthenic character, is the consequence. Thus, if the lungs be the weaker organ, we may have pneumonia; if the bowels, enteritis, etc. Some writers, apparently overlooking the primary affection altogether, have given various names to this peculiar form of disease, which have reference only to some of these complications. Hence we have "typhoid pneumonia," "head pleurisy," and a host of other names of a kindred character. Even so slight a circumstance as the occasional appearance of petechial spots has been obli-

ged to contribute to the nomenclature. Hence "spotted fever," notwithstanding the fact that five-sixths of all the cases have no "spots" at all. Any names of this kind, being derived from some fortuitous circumstance by no means essential to the disease, are decidedly objectional, and calculated to mislead; although it cannot be denied that these secondary affections, occurring in the debilitated and adynamic condition of the system peculiar to this disease, are often more troublesome than the original disease itself, and frequently call in requisition the most accurate discrimination, the most valuable resources, combined with that peculiar aptitude in their application which so readily distinguishes the truly scientific physician from the boasting quack or the mere routine practitioner.

One peculiarity of this disease was the great tendency to *relapses*. Often after the patient was apparently out of all danger, from some slight cause, severe, and in some instances, fatal relapses occurred. One of the most fruitful of these causes was a change from a higher to a lower temperature. Several of these relapses would sometimes occur in the same patient. Fortunately, however, they were generally less severe than the first attack.

This disease, like other epidemics, impressed more or less of its peculiar characteristics upon other diseases that were prevailing at the time of its occurrence, a decidedly *typhoid* tendency being present in almost all cases, and a corresponding modification in their treatment became necessary; even purely inflammatory diseases required a much less energetic antiphlogistic treatment than usual.

A singular case of its *alternative* with parotitis, which was prevailing at the time, came under the observation of the writer. The material points of which were as follows:

M. H., æt. 20, occupation a painter, was attacked with the prevailing epidemic Feb. 20th; had been from home the day before; while absent, was taken with pain and swelling in the region of the parotids, and from the fact that mumps were prevailing in the family at the time, no doubt was entertained

as to the nature of the local symptoms. When I visited him the next day, the region of both parotids was much swollen. Early in the morning, symptoms of a violent attack of the prevailing epidemic set in; the family, however, supposing that mumps was the only difficulty, were not immediately alarmed, and it was some four hours from the commencement of the attack before I saw him. I then found him with cold extremities, pulse scarcely perceptible, had complained of great pain in the head, eyes red, talking incoherently, the trunk and extremities thrown in almost every variety of position by violent spasms, the jaws much of the time spasmodically closed, had not swallowed for three hours; some fluid was introduced into the mouth, and efforts were made to induce him to swallow it; as soon however, as it reached the glottis, the most violent spasms were induced, which lasted for some minutes, several of these attempts were made and with the same result. Finding all attempts to introduce medicine into the stomach to be ineffectual, the congestive symptoms in the mean time increasing to an alarming extent, I determined for a time to abandon them, and rely upon external means. A large sinapism was applied to the epigastrium, cloths wrung out of hot water applied to the throat, hot bricks, blocks of heated wood, and bottles of hot water, were placed near the patient, stimulating frictions were applied to the spine and extremities, and finally, the symptoms becoming more and more alarming, a current of hot vapor was passed into the bed; the spasms soon subsided, the pulse, which for a time could not be felt at the wrist, was again perceptible at intervals, a tolerably free perspiration came on, and the vapor was discontinued; some stimulants were now swallowed; the patient continued to revive; in two hours would answer questions; complained of violent pain in the head; occasional delirium; would strike his head violently with his first, tear out his hair, &c. Two grains of opium were now administered, which afforded great relief. *The swelling about the throat subsided rapidly*, and in twenty-four hours from the commencement of the attack it had

entirely subsided. Indeed it disappeared so suddenly, that some doubt was entertained whether in reality he had mumps at all. The disease was treated with opium, camphor, quinine, &c., and at the end of the first week had nearly subsided; about this time the swelling *reäppeared* in *one* of the parotids, continued about the usual time for mumps, and gradually subsided; about this time, and while the patient was yet in a debilitated condition, upon a sudden change of temperature, he was seized with a relapse of the original disease, which was quite equal in severity to the first attack; this was treated upon the same general plan as the first, with the like result, subsiding about a week from its commencement; about this time the swelling made its appearance in the parotid of the opposite side, continued for three or four days, and disappeared. From the peculiar manner in which these several swellings disappeared and again reäppeared, throughout an interval of more than three weeks, some doubt was entertained in regard to its real nature; and had it not been for the fact that about the time of the subsidence of the last swelling, it again made its appearance in one of the *testicles*, in the manner peculiar to this disease, doubts might still have remained whether mumps had any thing to do with it.

In regard to the treatment of this disease, we think we are safe in affirming that almost every thing depends upon insuring, at the earliest practicable moment, a *reäction*; this being once effectually secured, in a great majority of cases the after treatment is comparatively easy; whereas, without it, it is believed that many otherwise simple cases would tend speedily to a fatal termination. I would by no means be understood to convey the impression that no danger need be apprehended after this reäction has been once secured. For if it be important in the first place to obtain it, it is equally important to *maintain* the favorable impression throughout the future progress of the disease. In a majority of cases this is not difficult. The well-timed use of the same class of remedies that were found successful in the first instance in bring-

ing on the reäction, was found sufficient to maintain it. This, however, was far from being universally the case. In many cases of the graver forms of the disease, a complete reäction was with difficulty secured at all, and if fortunately once obtained, the tendency to relapse into its former state was so great, that nothing short of the most energetic and assiduous application of the appropriate remedial measures, for a considerable space of time, was sufficient to maintain the equilibrium of the nervous and circulating systems, and prevent the patient from sinking rapidly into a fatal stupor. Often, when all things were moving steadily in the right direction, a delay or neglect of the proper remedies for a few hours, through the indiscretion of incompetent nurses, was sufficient to place the patient entirely out of the reach of remedies.

The particular remedies to be made use of in order to secure this impression, will probably vary somewhat, according to the prejudices, taste or predilections of the practitioner. It would hardly seem necessary, in speaking of the treatment of a disease so purely asthenic in its character, to make mention of blood-letting. Some practitioners, however, disregarding entirely the *ataxia spirituum*, and considering the congestion of the internal organs as the only essential element in the disease, have sought to make the desired impression upon the system by directly diminishing the quantity of circulating fluid, supposing thus to relieve the congested organs, and invite the remaining portions of blood back to the periphery of the body. Perhaps the best commentary upon this is, that almost invariably, where it has been practised, a fatal termination of the case speedily followed; and even in those very rare cases, of a mild character, where recovery slowly followed venesection, it is confidently believed *that the recovery would have been much more rapid without it.*

In general, those remedies that stimulated the surface and conveyed external warmth to the body, were found most useful in this stage of the disease. The application of a large mustard plaster to the epigastrium, highly stimulating fric-

tions, bottles of hot water, hot bricks, flannel cloths moistened with hot spirits of turpentine, dry cups applied along the spine; remedies of this kind, especially if encouraged by the free administration of warm diluents, and if necessary warm brandy and water, spirits of camphor, etc., rarely fails in a short time to produce a gentle perspiration, followed by a marked abatement of most of the symptoms. Often the free administration of warm drinks, in this stage, is followed by tolerably free vomiting, the revulsive effects of which aid materially in bringing on reäction. There are in these efforts frequently large quantities of bile ejected from the stomach.

Some practitioners have hence spoken highly of *emetics* in this stage of the disease. In mild cases they are doubtless sometimes useful. But in the severer forms of the disease, especially where there is much prostration, they are of questionable utility.

After the latent energies of the system have been temporarily aroused by the above means, we often find minute doses of calomel, combined with camphor and Dover's powder, are eminently useful, care must be taken, however, that too free evacuations of the bowels are not produced. Conjointly with these remedies, we must support the energies of the system by the use of quinine, brandy, carbonate of ammonia, serpentaria, etc., as the case requires. It is sometimes truly surprising that such enormously large doses of these medicines can be borne with impunity. The doses should be regulated by the effect rather than the quantity. Ordinary doses often make no impression whatever, and if the practitioner, from over caution, confines himself to moderate doses when the energies of the system are sinking, the patient will certainly fall a victim to his timidity.

In many cases *opium* was found to be an invaluable remedy. It is specially indicated where there is pain in the head, accompanied with delirium, spasm, great restlessness, neuralgic pains, palpitation, great irregularity of the pulses, subsultus, etc. The great cerebral disturbance might seem to contra-indicate the use of opiates; experience, however, has

shown that it may not only be given with safety, but that in many cases it is essential to the cure. Like tonics and stimulants in this disease, it often has to be given in large doses, and continued for a considerable length of time, and when it becomes no longer necessary, it should be gradually withdrawn.

The bowels should be moved by the mildest laxatives and laxative enemata; active cathartics are totally inadmissible. Cases that previously were doing well, have sunk rapidly, and died in a few hours after the operation of a moderate cathartic. It will not do, however, to be indifferent to the condition of the bowels. One case was noticed that came near falling a victim to an overloaded state of the alimentary canal. No evacuations had taken place in several days; the extremities were cold, pulse 40 and extremely feeble, great prostration, countenance sunken, abdomen tumid but not tender; a tolerably free evacuation of the bowels brought great relief; the same unpleasant symptoms occurred in this patient every time the bowels were allowed to become obstructed.

If any organic disturbance occurs, attended with local inflammatory symptoms, it must be met by the treatment appropriate to these affections. It is necessary to bear in mind, however, that the condition of the system is decidedly that of adynamic, and if any antiphlogistic remedies become necessary, they must be of the mildest character. Among these secondary affections, perhaps pneumonia and hepatitis occur most frequently. In these, and various other affections, dry cupping is often of service. Blisters are among our most useful remedies; a large amount of surface should be covered, and kept open as long as the inflammatory symptoms remain.

During the course of the convalescence the utmost care should be exercised to prevent relapses. Every symptom, however insignificant, should be closely watched; any unnecessary exposure of the person should be avoided, especially in cold, damp weather. Cold night-sweats are common

during convalescence, thus rendering patients peculiarly liable to take cold from slight causes. These sweats should be controlled by the appropriate remedies. A uniform temperature of the sick chamber, through the night as well as day, is specially important. The diet should be light, but sufficiently nutritious. Too much attention cannot well be paid to these regulations, and they should be persisted in until the health is completely re-established.

A case of a young man occurred, who had so far recovered that he was considered well; he continued so for two weeks. In a cool, damp day he rode some miles from home, went without his dinner, returned and ate a hearty meal, was taken with a violent relapse in the evening, and died in forty-eight hours. It is probable in this case, that the exposure in going from home and returning, had quite as much to do with bringing on the relapse as the error in diet.

I had designed to subjoin the outlines of a few cases illustrating the phenomena and treatment of this disease; but I have already exceeded the bounds that I had prescribed, and shall therefore omit them.

ART. IV.—*Extracts from the Report of the Proceedings of the New-York Pathological Society.* (Selected and prepared by Committee of Publication.)

Report of a Case of Cancer of the Brain. By J. T. METCALFE, M. D.

Michael Larkin, æt. 28, a tailor, native of Ireland, stout, short and well made, was brought to Bellevue Hospital in August, 1848, having been found in bed, in a fit, by his acquaintances. At the time of admission, he was comatose. In the course of a day or two, by cupping to the nucha, blistering, and the application of counter-irritation to the extremities, he recovered so as to be able to walk about and answer questions. Subsequently to this time, he appeared to suffer continually from headache, was slightly amaurotic, and complained of feeling somewhat weaker on the left half than on the right half of the body. About two

months after his admission, he had a seton introduced in the back of the neck, from which some alleviation of the headache was thought to take place. He was treated with tincture of aconite for some time, but no benefit was derived from its use. At one time small doses of sulphate of quinine were given. These appeared to produce violent aggravation of the headache, and were discontinued.

When I saw him, about the 26th of December last, he complained of the headache more than of any other symptom. Motion seemed to aggravate this very much, especially when he stooped down or bent forward, in examination of the posterior part of his chest. His appetite was good, pulse presented nothing remarkable, bowels regular, and nutrition seemed to be well performed. His intellect seemed somewhat obtuse; there was slight paralysis of the left eyelid, difficulty of vision, and weakness of the left arm and leg. He was able to walk about very well, however. Regarding the case as softening of the brain, or one of intra-cranial tumor, and choosing the former for a diagnosis, on account of the comparative rarity of the latter, little treatment other than the expectant was ordered. He had been repeatedly subject to epileptiform attacks during his stay in the hospital. These were different from ordinary epilepsy, in being of longer duration, lasting sometimes for half an hour or more, and from there being no foaming at the mouth, and no considerable impediment to respiration. Intense pain seemed to be expressed by his features during a paroxysm.

In one of these he died, on the 7th of January.

Autopsy 20 hours after death.—Body well nourished, cadaveric rigidity, slight hypostatic congestion. Head.—The skull was extremely thin, not exceeding 1-8 of an inch at any part sawed through. There was a whitish matter deposited between the arachnoid and dura-mater, sometimes in arborescent patches; at others, in lines or dots, and which resembled fibrine. The brain was palish, and presented, on inspection, nothing peculiar. The touch enabled us to recognise a hard tumor, apparently as large as an egg, situated in

the anterior portion of the left lobe, and extending into the right hemisphere at the anterior extremity of the corpus-callosum. By dissection, the tumor was found to have originated in the left anterior half of the corpus-callosum. It had extended downward, so as to cause considerable pressure on the corpus-striatum of the left side. Latterly, it had encroached on the right hemisphere to the extent of nearly an inch. Softening had taken place near the centre of the tumor, over a space as large as an almond. Between the encephaloid mass and the convolutions, the brain was white, and offered a resistance to the scalpel such as would be found in incising healthy uterine tissue. The line of demarcation between the brain and tumor was ill defined.

THORAX.—No tubercles; lung universally adherent to the thoracic walls by old pleuritic membranes.

ABDOMEN.—Viscera healthy.—*Jan.* 10, 1849.

Report of a Case of Rupture of the Heart. By G. A. SABINE, M. D.

On the 21st December, 1848, I was requested to make the post-mortem examination on a person who died suddenly a few hours previously. From the medical attendant I obtained the following short history of the case:

The patient was a female, aged 75 years; her general health had been remarkably good, with the exception of occasional palpitation of the heart. On the 19th she walked about two miles, and on the 20th a distance of one mile, without suffering any inconvenience. On the same evening she retired to her bed in perfect health. About one o'clock the family were attracted to her room by moans. They found her complaining of a sense of suffocation and severe pain over the region of the heart, extending up to the left shoulder. On the arrival of her physician, he found her nearly pulseless, and the surface cold. Suitable remedies were directed, so that by eleven o'clock the following morning the skin had become warm, and the pulse eighty, and moderately strong; the patient herself feeling quite comfortable. At half

past one o'clock she got up and dressed herself, which she had scarcely completed, when she fell down and expired immediately, without a struggle.

The post-mortem was made about eight hours after her decease. Chest.—The lungs somewhat emphysematous, with evidence in various parts of early tuberculous disease. There were obsolete tubercles in the summits of both lungs. Heart.—On opening the pericardium, it was filled with a large coagulum, which, on careful examination, was found to have escaped from a rupture of the left ventricle, about half an inch in length.

The heart had undergone slight fatty degeneration. In other respects it was normal. Liver was healthy—gall-stones in the gall-bladder. Spleen, atrophied; external surface covered by a thick dense cartilage. Kidneys.—The left one encysted; in other respects healthy.

Remarks.—In the above case rupture, no doubt, took place about one o'clock, previous to her suffering from faintness, and a sense of suffocation; and while in this condition, a coagulum formed, blocking up the rupture; but, unfortunately, the coagulum was forced away by the exertion made in dressing herself on the following day, immediately proving fatal. Had the nature of the accident been suspected, and the patient kept perfectly quiet for some days, is it not possible that union might have occurred, and the patient's life been prolonged?—*Jan.* 10, 1849.

Case 2d.—*Aneurism of the Abdominal Aorta Similating Severe Gastric Derangement.*

New-York, December 13, 1848.

Dr. Sabine:

Dear Sir:—I have much pleasure in complying with your request, to be supplied with a brief history of the case of aneurism which came under my observation a few weeks since. A. B., æt. 32, of slender frame but active habits, consulted me for the first time in December, 1847. He stated

that, about a year and a half previous to that time, while making an excursion on horseback through one of the southern states, he had been suddenly stricken with paralysis, his left side being deprived of motive power, both upper and lower extremities being equally affected. He remained under medical treatment for a period of two months, when he was sufficiently restored to return to his home in this city. He never at any subsequent time completely recovered the use of the left lower extremity, but in every other respect, until the month of December, 1848, his health had been tolerably good.

He had been accustomed to live well, and to the habitual but moderate use of intoxicating drinks. On making the necessary examination, I found him to have suffered from a second paralytic shock, the same side being again involved. Under appropriate treatment he speedily recovered, and once more engaged in his usual business pursuits. I did not have an opportunity of seeing him until the month of October last, when he again consulted me, complaining of loss of appetite, irregularity of the bowels, with a sensation of fulness in the epigastrium. On making pressure over the epigastrium, I discovered a large strongly-pulsating tumor, situated directly in the mesial line, extending from a short distance above the umbilicus, nearly to the ensiform cartilage, apparently of the size of the fœtal head at full term, and which, singularly enough, had not as yet specially engaged his attention. In reply to my questions, he stated that he had slightly observed the pulsation in the epigastrium about two months before, some time in the month of August; that, supposing it to be the action of the heart, he had not considered it worth while to consult me on the subject; that he had considered the enormously increased impulse a happy symptom, as indicating an increased energy of his constitution; that he could assign no cause whatever for the origin of what was now cautiously explained to him to be a most formidable disease, nor had he at any time experienced severe pain in the region of the tumor; the only complaint made, being of a distressing sensation of distention, and loss of appetite, accompanied with a constipated state

of the bowels. His pulse was 120, frequent, and easily compressible, tongue preternaturally red, and having a glazed appearance, strength much diminished, and there had been considerable loss of flesh. At my request, a consultation was held, and the patient was fully apprized of the character of his malady. During the next three days a slight progressive enlargement took place in the aneurism. On the evening of the fourth day from the date of my first visit, I was hastily summoned to my patient, and found him faint and collapsed, the sac having evidently given way. Three hours after, he died without a struggle, remaining perfectly collected until the last moment. He had dined as usual, and was conversing with some friends at the moment the rupture took place. I have deemed it unnecessary to particularize the numerous symptoms of abdominal derangement produced by the pressure of this enormous tumor, or the treatment adopted in this most hopeless case.

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By the request of the writer of the above, Dr. Young, I made the post-mortem examination. On opening the abdomen, the great omentum was found injected with an immense quantity of coagulated blood. The areolar tissue, posterior to the peritoneum, was also found filled with coagulum. This was discovered to have escaped from a large false aneurism, situated on the abdominal aorta, below the cœliac axis. All the other viscera of the body were carefully examined, and found to be perfectly healthy. The spinal cord was particularly and carefully examined, and found to be normal.—*Jan.* 10, 1849.

Report of Case of Wound of the Heart—the Patient living ten days.
By W. S. Bowen, M. D.

Dr. Bowen presented the specimen, and read the notes of the following very interesting case:

D. R., aged 21, admitted December 13th, 1848, with a stab in the left mammary region, near the sternal end of the fourth

rib, about half an inch removed from the sternum; received two days before admission.

Dec. 17. Patient complains of an acute pain near the situation of the wound; has some febrile excitement; respiration slightly accelerated. The friction sounds of pleurisy and the evidences of moderate effusion are present. Venesection. Tart. antim.

Dec. 19. Pain greatly mitigated; febrile excitement abated.

Dec. 20. Evidences of effusion still present; some roughness of the first sound of the heart.

Dec. 22. Fell on the floor of the ward, while crossing it, in a state of syncope; complains of intense pain and a sense of constriction across the chest; pulse feeble, frequent and intermitting, the intermissions occur after every third pulsation; extremities cold; skin blanched; cold, clammy perspiration over face and body; extreme thirst.

He became comatose, with dilated, insensible pupils and stertorous breathing, and died December 23.

Examined nine hours after death. On removing the cartilages and ribs, the left pleural cavity was discovered to be filled with blood; slight inflammatory redness of the costal pleura, and the lung was compressed to one-third its natural size. The pericardium was also filled, and the heart pushed over to the right side. Removing the heart, with its appendages, the pericardium was found perforated within the mediastinal space two inches below its reflection from the vessels to the heart. Around the orifice, for several inches, were the evidences of inflammation, both on the internal and external surfaces, to wit, capillary injection and shreds of coagulable lymph; this was more particularly the case upon its internal surface. The heart itself was found perforated half an inch to the right of the septum; the perforation entering the right ventricle about a line below the anterior semilunar valve of the pulmonary artery, passing entirely through this ventricle and entering the septum ventricularum just at the base of the posterior valve, and coming out into the left ven-

tricle at the orifice of the semilunar aortic valves, one of which was grazed. These orifices were lined with coagulable lymph, and without displacing it admitted the introduction of a good sized probe.—*Jan. 24th*, 1849.

Aneurism of the Descending Aorta—Rupture into the Pericardium—Obliteration of the right transverse Vein. By WILLIAM H. VAN BUREN, M. D.

MR. V. Z., 48 years of age, bookbinder by trade, robust and muscular, and of excellent general health, received, some 20 years ago, a number of severe bruises about the chest, being trampled upon in a dense crowd, from which he barely escaped with his life. Since that time his good health has been uninterrupted, with the exception of pains in the chest, especially on drawing a deep inspiration, of which he has complained habitually. Within the last year the troubles about the chest have increased somewhat; he has suffered from dyspnœa almost constantly, particularly increased by excitement; has suffered much from a dry, harassing, severe cough —tracheal in its character—which has been uniformly more troublesome at night; prefers to sleep in the upright position, principally on the right side. He also complained of considerable rheumatic (?) pain in the shoulders, and back of the neck and head, of which the skin is at all times neuralgically tender. He has been very much troubled of late with coldness of the hands and feet, which have manifestly diminished in size; the left hand particularly has been numb. He had never left off his daily occupation. On the 11th of January, during a paroxysm of coughing, he fell from his chair and died instantly.

On post-mortem examination, an aneurism was found of the ascending aorta, half as large as a billiard ball; immediately beyond this, at the root of the innominata, was a second much larger aneurismal dilatation the size of the fist. On opening the pericardium, about four ounces of serum escaped, and the heart was found enveloped in a layer of coagulated

blood, amounting to about seven ounces: a rupture of the aneurismal sac into the pericardium existed. The branches of the arch of the aorta were pervious and healthy; the walls of the descending aorta were much diseased. Heart to all appearance healthy. The right transverse vein was found to be obliterated, and involved in the walls of the aneurism. A portion of the right lung was consolidated by the pressure of the aneurism; the lungs were otherwise healthy. There had been, at no time, any œdema of the right arm.

In connection with one of the peculiarities of this case, viz., the obliteration of the right transverse vein, Dr. Van Buren alluded to an instance in which he had encountered a similar lesion of this vein, evidently the result of a limited phlebitis. It was in the case of a middle-aged female, who died in Bellvue Hospital with disease of the lungs. There was considerable œdema, confined entirely to the right arm; and also —a somewhat rare occurrence—a very well marked varicose dilatation of the left subclavian vein. The recognition of these symptoms before death, led to a suspicion of the lesion, which was actually found to exist. The specimen had been exhibited to the society.—*Jan. 24th*, 1849.

Case 2d.—*Case of Syphilitic Disease of Larynx—Tracheotomy.*

Dr. Van Buren also exhibited the larynx, trachea, and bronchi of a man 33 years of age, upon whom he had performed the operation of tracheotomy, about two months and a half before his death. He was in imminent danger of death from suffocation, from organic disease of the laryngeal cartilages, apparently of syphilitic origin, and the temporary relief from the operation was entire. On exploring the larynx some days after the operation, through the artificial opening, a portion of necrosed bone was felt and detached from the posterior surface of the semi-ossified cricoid cartilage, as large as a sixpence. Six weeks after the operation the opening had contracted to such an extent that the tube could not be reïntroduced; symptoms of suffocation rapidly came on, and it was

necessary to enlarge the opening before respiration could be restored. A harassing cough, accompanied by expectoration of tough viscid and occasionally bloody matter, continued, and finally caused death by exhaustion. The specimen exhibits a peculiarly interesting condition of the parts. Above the artificial opening, the larynx, although showing evidence of the previous existence of extensive disease, is entirely cicatrized, and apparently healthy—evidently the result of the rest secured to the organ by the artificial opening. Below, the trachea, down to its bifurcation, is filled, particularly on its posterior surfaces, with numerous deep, ragged, unhealthy looking circular ulcerations, with extensive loss of substance, its cartilaginous rings being at numerous points denuded and partially destroyed. Dr. Van Buren remarked, that in his opinion the ulcerations were syphilitic in their character, and that if he had retained charge of the patient after the operation, he should have anticipated decided benefit from the influence of mercury.

Art. V.—*Case of Hydrothorax and Hydrops Pericardii.* By James A. Mott, M. D., of Waddington, N. Y. [Communicated to the Editor of the New-York Journal of Medicine.]

Mr. Editor,—As your useful and interesting Journal has become one of our most popular vehicles for disseminating important cases of disease, I shall offer no apology for soliciting a place in your pages for the following remarkable case of hydrothorax and hydrops pericardii.

The wife of Hon. G. R., of this village, gave birth to a well-formed and healthy child, on the evening of the 10th of March, 1849. There was nothing preternatural in her labor, which was attended by an experienced and able physician, and at the moment of the birth of the child, there were no symptoms which indicated a fatal result. About ten or fifteen minutes after the birth of the child, and before the secundines were removed, she complained of great oppression about the chest, and difficulty of breathing, and requested the attending phy-

sician to administer something to relieve her. A few drops of aqua ammonia were given in a little cold water, but without the least benefit, and she expired in about thirty minutes after the birth of the child.

A post-mortem inspection took place about thirty hours after death, and presented the following appearances:—The left lobe of the lungs, throughout its entire surface, was mottled with dark spots of stagnant blood, and on cutting into its substance, we every where found its cells filled with frothy mucus mixed with bloody serum, which probably resulted from sanguineous transudation after death; but what more particularly demanded our attention, was the large quantity of water in the cavity of the thorax and pericardium. At the least calculation there were three pints of water in the cavity of the thorax, and six or seven ounces in the pericardium. The fluid in the cavity of the thorax had a decidedly sanguineous tinge.

The accumulation of this fluid must have been in progress some time previous to her death, and the only wonder is, that she survived so long, with such a load of disease attached to the most important and vital organs of the body. It did, indeed, occur to me some fifteen months ago, when she consulted me for a severe palpitation of the heart, that she might labor under hydrops pericardii, and the same opinion was entertained by Dr. Stowers, her attending physician, but as her temperament was nervous, both of us were inclined to impute her symptoms to a nervous affection, and prescribed accordingly. It should be remarked, that Mrs. R. had not enjoyed a sound state of health for a number of years; she suffered much from an affection of the throat and enlargement of the uvula, for the cure of which she consulted a number of highly respectable physicians in the city of New-York and other places, but with only partial relief. With the concurrence of Dr. Valentine Mott, she had had removed a portion of the enlarged uvula; but notwithstanding the various means adopted to relieve her, her throat always remained in an irritable condition; often giving her great trouble, especially dur-

ing the sudden changes incident to the fall and winter months of this northern region. During her late pregnancy she enjoyed a better state of health than usual, with the exception of a severe cold, which she took about six weeks previous to her confinement. These symptoms, however, soon yielded to simple treatment, and at the time of her death there were no positive indications of the disease which so suddenly and unexpectedly destroyed her.

ART. VI.—*On the Morbid Condition of the Generative Organs.* (Being a paper read before the Chenango County Medical Society, June 12, 1849.) By WILLIAM D. PURPLE, M. D., of Greene, N. Y.

THE subject to which your attention is called on this occasion, *is the physical and mental phenomena which depend on certain morbid conditions of the generative organs.* I am aware that this subject has been recently discussed in some of our periodicals, as well as in certain productions designed for the popular eye, and in this attempt to make "darkness visible," I disclaim all pretensions to originality, and all thought of a practical hypothesis; but shall merely endeavor to hold it up as a nebulæ before this society, with the hope that more practical minds will reduce it to its constituent elements, define their laws, and point the way to remedy their evils.

Man emphatically partakes of all the characteristics of animal life. His chief end and aim, so far as his physical being is concerned, are like the worm of the dust, to propagate his kind. To this end all his powers, both physical and mental, are made tributary. All his gregarious habits—all his love of kindred, and all his social affections, find their centre in this wise provision of nature to procreate his species. The unerring laws of instinct, planted by Infinite Wisdom in the lower animals, are so guarded as to protect them from excessive indulgence of this appetite. But human reason is not so fortunate. This propensity in man often becomes a most debasing passion, and hence liable to be abused. In proportion to its elevated position in the animal economy in a physiological point of view, so is its physical influence over the life and health of the body when the laws of nature are violated.

The specific diseases of these organs consequent on promiscuous indulgence, will almost warrant the belief in the direct interposition of Providence for the punishment of the violators of the seventh command.

Nor are the consequences of excessive and unnatural excitement of these organs less apparent. They are exhibited in the premature decay and death of those whose sexual organs are stimulated by promiscuous indulgence, or the equally debilitating effects of masturbation.

Reproduction is one of the highest attributes of physical being. It involves more extensively the vital powers than any other functional act. The fabled notions of the ancients, that every part furnished a part, is literally true, at least so far as extensive sympathy with the sexual organs is concerned. The powers of both body and mind are more entirely concentrated here than on any other occasion. The slightest excess produces the most excessive prostration of the nervous power, and the mental faculties dependent on it; hence the recuperative energies of the system, on which health so much depends, are readily dissipated by excessive or unnatural indulgence of the sexual appetite.

An anatomical view of the sexual apparatus presents a very large extent of membranous surface. This membrane is liberally supplied with blood-vessels and nerves. It is subject for a long period of life, to the most violent orgasms, and is exposed to the influence and effects of private lascivous reflections. It is emphatically one of the great nervous centres of the system, and possesses in an eminent degree all the nervo-membranous characteristics so ably described and illustrated by that great physiologist, Bichat.

This membrane is subject to abrasion, and local diseases of various kinds. They are the most acute to which the body is liable. They lay the system under more immediate and powerful contribution for its vitality than any other diseases. The slight excitement of a mild case of gonorrhœa, even after the inflammatory stage has subsided, wakes up a constant irritation both of body and mind; evincing an extensive influence over the nervous system, that conceals from the view its apparently trifling cause. It cannot with truth be said, that this is the result of remorse and fear of exposure, for it is much more intense than even the worse form of syphilis when the lesion involves other tissues.

These influences of actual disease of this membrane demonstrate that its *function* has a wide-spread sympathy with every part of the animal economy, and involves to a very great extent the mental characteristics. But local disease of these organs may exist without actual abrasion. The function may become vitiated by abuse, and produce a chronic disease capable of undermining the whole nervous system, without awakening attention to its location. This is also apparent in hysteria, in functional disease of the stomach, and many other membranous surfaces.

If other evidence of the all-pervading influence of this function is wanted, it may be found in the change, both physical and mental, which the age of puberty brings with it. The encephalic developments, as well as the change in the voice, are apparent to all, and the entire exemption from these changes when the function of this system has been suspended by a removal of the secretion on which it depends.

Excessive indulgence in the sexual appetite is emphatically a solitary vice. It seeks concealment from all not essential to its gratification. It is generally commenced at an early period of puberty, when, in solitude, excessive orgasms leave the generative system in a state of chronic weakness and nervous debility. This wakes up a morbid appetite for its repetition, and when long-continued it leaves the system in that state that renders subsequent indulgence, however innocent and moderate, any thing but a healthy process.

This state of the generative system is hidden from the world, and is seldom admitted to the physician. As they are unable to institute comparison with others, it is frequently unknown to the deluded subjects themselves. It is imputing a wrong, and trespassing on reserved rights, for us to allude to it even in our own sex, and it is rudely trampling on the very drapery of delicacy to charge it upon the gentler sex. Hence it undermines the constitution—saps the very powers of life—confines the subject in bed for years—or, by its metastasis to some more vital organ, closes the scene by death, without being clearly recognised by us.

This state of the generative organs may exist with very little local irritation. All its constitutional symptoms may be present, without a manifestation of any other local excitement than that of a morbid appetite for sexual indulgence. It probably in every case depends on the violation of nature's laws, either by self-pollution or by early excesses in sexual indulgence. It is an admitted fact, that nearly all the chronic diseases to which the system is liable, are the sequence of some violated laws that Infinite Wisdom has imposed upon the animal economy. And the sexual organs, goaded on by a morbid passion, stimulated by an excited imagination, and hidden from the eye of the world, comes in for their full share of the consequences of violated laws.

This disease usually presents itself in those who have a large share of the sanguine and nervous temperaments combined. It exists in comparatively rare cases, while others may be exposed to the like causes, with less irritability of these organs, with entire impunity. The tendencies to these symptoms may be, and I doubt not are in some instances hereditary. It is, if not of modern origin, more prevalent now than

formerly; at least it is attracting more attention from the profession now than at any former period.

In a hospital devoted exclusively to this form of disease, a single individual could do much to elucidate its characteristics. But the limited observation of a country physician can do little more than to mention a few cases, and present them to his brethren in their associated capacity, that they may be subjected to the touchstone of comparison, where joint effort may arrive at pathological truth and practical deductions. To this end the following cases, from among those that have fallen under my observation, are presented for your consideration.

1st. The first case to which I would call your attention in support of these views, occurred some years since, in an unmarried female, aged eighteen. She was of a robust constitution, with a nervo-sanguine temperament, and had enjoyed uninterrupted health. The first symptoms that attracted attention, were a propensity to lonely wanderings, a heedless inattention to business, and a disregard to her personal appearance. These symptoms were succeeded by loss of appetite, an excessive emaciation, with high nervous excitement. She had irritability of the muscular fibre, with occasional paroxysms of chorea. These usually occurred on some sudden surprise. Her pulse was irritable, her skin dry, and she was harassed with an almost incessant cough. These symptoms were succeeded by sleeplessness, incoherent conversation, interspersed with occasional libidinous remarks—the medulla oblongata soon became involved; this was manifested by extreme tenderness of the spinal column. In this condition she was confined to her bed for some months, without any abatement of her unpleasant symptoms. Perfect delirium supervened, and she presented all the symptoms of a confirmed maniac. She was treated for this malady for about six weeks, when she gradually recovered, and was restored to perfect health.

It was impossible, at that time, to learn definitely the cause of these symptoms; yet, as she had before enjoyed uninterrupted health, I had strong suspicions, and charged her with the cause. This, at the time, was met by a positive denial. In a subsequent conversation, however, after she was a wife and a mother, she admitted to me that all those distressed symptoms, even to confirmed mania, were the result of violent orgasms of the sexual apparatus, to which it had been subjected from three to five times a day, for two or three years. So great was the excitability of the nervous system in this case, that for months she was in a feverish condition, and every indulgence reduced her strength to that degree that she was forced to keep her bed. When local ex-

citement and morbid priapism would so far subside as to allow her to lose herself in sleep, nocturnal orgasms would awaken her to a sense of her wretchedness. This state continued until the nervous system became involved, and the citadel of reason was invaded. The irritating process was then suspended, and with the straight-jacket and cold water, we were able to affect a cure. On a return of consciousness, she reflected on my accusation, and inferred that her habits were publicly known. They were never resumed, and she was restored to perfect health.

2d. The second case to which I would call your attention, arose from extreme debility of the seminal vessels, brought on by early solitary excitement, and completed by sexual indulgence, at the early age of sixteen. His first indulgence was so violent and long continued that the organs never regained their normal vigor, and the chronic sequences were never overcome. These were: enlarged testicles, tenderness and rigidity of the spermatic vessels, an irritable state of the bladder and urethra, an exceedingly acute and almost painful sensation in sexual indulgence. He was troubled with priapism, with diurnal and nocturnal seminal discharges. He had blennorrhœal symptoms, which presented themselves unconsciously with the urine. On his marriage, no unpleasant symptoms were communicated. His social feelings and affections were the source of painful excitement, and seemed to vibrate with harshness on his irritable nervous system. His whole life was a scene of constant physical and mental excitement. He became melancholy, misanthropic, and irascible. His thoughts, his feelings, and views of every thing around him, were unlike others. He travelled much, and spent time and money to remove the disease from his body and relieve his mind from the constant excitement it produced; but in vain. They adhered to him like the fabled shirt of Nepus, and controlled his whole physical and mental being. He sighed for the Lethean waters of forgetfulness to protect him from their influence, but they came not to his relief. He was conscious of his own characteristics, and freely admitted to his medical advisers the cause that produced them. Time rolled on, the nervous system became more and more involved. His seminal losses increased with his years, and the whole economy, particularly the cerebro-spinal system, "gave signs of wo, that all was lost." The local symptoms were lost in the general excitement, the mental faculties gave way, and for much of the time, for two years, he was unfit to do business, and in a moral point of view, was unaccountable for many of his acts. A constant and gradual increase of the above described symptoms, which commenced with his boyhood, brought on

a premature decay of his physical and mental powers, and without any other apparent cause, he sunk into a comatose state, from which he never revived, and death closed the scene in twenty-four hours.

3d. The third case to which I shall refer, is that of a young man of eighteen, who had symptoms of gonorrhœa. The acute stage yielded readily to treatment, and it was supposed that the chronic debility succeeding, would yield to time and the recuperative power of the system. In this he was disappointed. A mild gleet continued, not enough to prevent his being about his business, but enough to create physical irritation and mental anxiety. Weeks and months rolled away; he had very little local irritation, yet he became emaciated and nervous. A slight fever followed for a few days. These symptoms were followed by mental depression. He became thoughtful and taciturn. His countenance indicated much anxiety. A sluggish pulse and incoherent speech followed, when suddenly a comatose state of the brain supervened, which closed his earthly career in three days.

This case is somewhat in the dark. What were the essential characteristics of the original disease cannot be clearly ascertained. It is proper to remark, however, that two other young men were nearly simultaneously affected thereby, from the same source. One of whom died some months thereafter, in a similar state, which supervened on an attack of common fever. What the precise symptoms were, I am unable to learn, as the case occurred in a distant part of the state. But of one fact I am well assured, he had never entirely recovered from his gonorrhœal symptoms. The third individual yet suffers to some extent for the "sins of his youth," and although he has been married for some time, the disease has never been communicated.

4th. The fourth case to which I shall allude, is that of a married man, aged twenty-six, in whom there is no evidence of having suffered under gonorrhœal symptoms. He has been confined to his bed for the last two years, with the following symptoms. His pulse is feeble, and occasionally irregular, he has palpitation of the heart, with throbbing at the pit of the stomach, pain in the back, with irritation of the whole spinal column, a choking sensation at the throat, equivalent to that caused by hysteria, erratic pains, denoting high nervous excitement. He is very feeble, with much emaciation; he has cold clammy sweats, with extreme prostration of muscular power. He is intolerant of the sounds of the slightest tread, and does not speak above the lowest whisper. He does not turn himself in bed, and an extra pillow produces a sense of suffocation. All the animal functions are exceedingly weak, and the vital are but feebly performed. He is troubled with priapism,

and has voluntary and involuntary seminal discharges. They were formerly very frequent, but now do not occur oftener than two or three times a week; when they do occur, however, they very much reduce him, and aggravate all the above spmptoms, and to these evacuations, which have continued through a series of years, we are compelled to refer all the above symptoms. The admitted cause is, long continued and excessive anti-nuptial self-pollution, which so far weakened the young and delicate organs that they never recovered their normal state. On his marriage, the excitability of the generative organs stimulated him to excessive indulgence in his sexual appetite, when the powers of the system gave way, and he was reduced to his present wretched and hopeless condition.

In the same house is another subject, in the person of his wife, who, though not so feeble, has been confined to her couch for a long time, laboring under a similar train of symptoms. She has superadded to these all the characteristics of our modern cases of prolapsus uteri. The cause, in her case is, without doubt, her nuptial participation in the excesses of her husband.

Various remedies have been resorted to in the above cases, under the influence of all the lights of allopathy, homœopathy, and hydropathy, but with little or no effect; the subjects seem inclined to move in the even tenor of their way, regardless of all remedial efforts.

5th. The next and last case to which I shall allude, is that of a young girl of sixteen, in whom early solitary excitement had reduced to the most abject condition. Her nervous system was entirely unstrung. This was manifested by all the neuralgic symptoms enumerated in the foregoing cases, with the addition of frequent epileptic paroxysms. The sympathetic action was early communicated to the urinary organs, and long-continue dand painful ischury was the consequence. The urethra became so rigid and irritable that the catheter could with difficulty be introduced. After some months, a fever followed, which ran its ordinary course in ten or twelve days. This left the stomach a prey to the sympathetic influence of the generative system; constant vomiting followed, and for more than a year she never received a particle of liquids or solids into the stomach without producing severe retching and emesis. In this wretched condition she became almost a shadow. She was very much emaciated, and could with difficulty walk the room. Hardly enough could be retained on the stomach to support vitality. She lost her vivacity, avoided all society, and seemed to abandon herself in despair to her fate. Every thing was done for her that could be suggested, but as remedial agents were directed to the stomach,

they were unavailing. At length endurance seemed at an end, and death appeared inevitable. She then recalled her oft-repeated denials, and admitted her habits. She confessed that self-pollution was commenced at the earliest signs of puberty, that it soon became an uncontrollable passion, and for some three years she had subjected herself to violent sexual orgasms from three to six times in twenty-four hours. As soon as her secret was known, the spell was broken, and the charm dissipated. A firm resolution, aided by travelling, and spending all her time, both by day and night, with some one to restrain her, soon put an end to her emesis, and she was gradually restored to perfect health.

Did the time of the society permit, and your patience would endure it, I would mention a number of other cases, some of which are now under treatment by members of this society; but enough has been adduced to show the various causes and the different manifestations of these derangements, and serve as a basis for the following reflections.

From a review of the foregoing observations and cases, the following facts are clearly proven to my mind, and I doubt not they will meet with an affirmative response by every member present.

1st. That a gleet, following gonorrhœal symptoms, is not the mild and harmless thing it has generally been supposed to be; but is capable, under certain circumstances, in some constitutions, of making up an irritation, liable to be transferred to other portions of the membranous surface, and of producing all the symptoms incident to the disease of that wide-spread structure, including meningeal irritation, coma, and death.

2d. That violent and unnatural orgasms of the sexual apparatus in the early stage of puberty, before the organs are fully developed, and have attained their perfect vigor, will, in either sex, create an almost uncontrollable desire for its repetition, which, in the end, will leave the nervous system in a similar condition to that of the confirmed inebriate; and, if long continued, will produce every variety of neuralgic symptoms, including epilepsy, mania, and, perhaps, death.

3d. That, in consequence of long-continued excitement, there is a change of structure and functional action of the glandular portion of the testicles, the vassa deferentia and eferentia, the vesiculæ seminalis, the prostate gland and its numerous folicles, the urethra, and by sympathy, the bladder, the ureters and kidneys, that cause them to pour out seminal and blennorrhœal discharges: thereby debilitating the system, undermining the constitution, producing dyspeptic symptoms, and, if not timely arrested, terminating in coma and death.

If the foregoing points are not satisfactorily sustained by the cases presented above, I have no doubt that the experience of many members of this society will be able to supply many cases to demonstrate their truth. To this end, a rigid investigation is solicited, that their truth or falsity may be made apparent to our practical advantage.

How limited is our knowledge of the pathological character of these troubles? How little is the country physician prepared to form a rational theory of their influence in the animal economy? How little we know of their existence, and how frequently they elude our research? The veil of secrecy and shame-faced denial hides them from our view. They are produced by personal gratification and perverted action of the strongest passion of the animal system; a passion that over-rides all other physical powers, and is the basis of all earthly affections and sympathies of the heart! It partakes of all of the characteristics of forbidden fruit, and is heightened by the imaginings of a perverted imagination! It is the seat of the "*one idea*" that dethrones reason, and fills our lunatic asylums with their inmates. It is, also, the source from "whence the darker passions flow," as the prison and the gallows can assert! The grave of the suicide can bear witness to the same truth. The poet and the novelist have made this giant their theme, and portrayed his power for the weal or the wo of mankind; but the medical philosopher has neglected to cultivate his acquaintance. He has been suffered to secrete himself among the mental afflictions, and has seldom been dragged forth to answer for the deeds done in the body! It is time that these organs, so far as reproduction is concerned, should be thoroughly studied, and their pathological influences clearly developed; but the passions and appetites which lie behind them are almost entirely hid from our view. Their use or abuse have seldom been referred to as the origin of diseased action. The world sneers at and ridicules the suspicion that health is affected by their indulgence, and the physician is apt to join in the cry, and refuse to give the matter serious consideration. We hardly know

> "that lovers' hectic flush,
> "Will sap, at length, the very springs of life;"

and we have been slow to believe that disease of these organs may produce every variety of chronic disease, ultimately be transferred to the brain, and cause mania or death. But observation and reflection has convinced us that it will do all these things, nor is admitted analogy wanted to confirm this belief. We know that there is no organ of the body that is not capable, by perverted

action, to work its own destruction. That the seeds of disease and death are lurking in every healthy organ, and only require a certain amount of excitability to arm them with suicidal power. We know that perverted taste and morbid appetite produces a chronic disease of the stomach, and through the nervous system invades the citadel of mind, and by the most horrid disease consigns the bacchanalian to his grave. This is emphatically true in relation to the organs we are now considering. We know that in certain constitutions the process of reproduction in the female will produce an anæmic state that ultimately produces death. We see the far-reaching influence of hysteria, and its herculean effects upon the whole physical and mental characteristics, especially after long continuance. Analogous to this is the effects of puerperal mania, which all admit to originate in undue excitement of a portion of these organs. These diseases both produce a sympathetic irritation of the brain, and their effects are liable to exist through life, even though the causes that produced them have entirely ceased. We see habitual costiveness producing severe pain in the head; and irritation of the large intestines causing effusions upon the brain. And we may expect that long continued disease of the reproductive organs will produce similar effects.

We often see death supervene on a train of nervous symptoms, the result of long-continued irritation of some excitable organ. We also see subjects where there is, to all appearance, *no* local disease, whose symptoms are entirely prostrated for the want of nervous energy. In these cases we are apt to say, "they are nervous;" and there is a degree of uncharitableness attached to the expression that conveys the idea, that "there is little or nothing the matter," until death suddenly starts us from our fancied security, and we find that neuralgia, without any apparent cause, has worn out the powers of the system, and unexpectedly broken the brittle thread of life. These cases require more serious consideration at our hands; and there are reasons to fear that in many instances their origin will be found in the great nervous centre we have been considering.

The truth is, we are very much in the dark in relation to many diseases of this system. Their origin lies so near the *source of life*, that it is difficult for mere mortals to penetrate the veil behind which they are shrouded. How often we see in the aged gentleman, a train of fatal symptoms present themselves, from some morbid condition of the prostate gland, and other generative and urinary organs in its immediate vicinity? Should they be traced to their cause, it would doubtless be found in the long-continued use or abuse of the generative or-

gans. Look, also, at the bed-ridden subject, who, for years, has suffered under the various forms of prolapsus uteri. How little we know of her pathological condition? We know there is local weakness; we know there is relative displacement; we know there is excessive nervous sympathy and general debility; we know she cannot sustain an upright position. But what else do we know? Has post-mortem examinations been had in the country to elucidate this dark point in pathology? Has it or can it demonstrate the fact whether it depends on the muscular, the fascial, or the membranous structure? Has it clearly shown that its seat is in the vascular, cellular, or nervous tissues? These things have not been done. All we know is, that they involve the "*generative organs,*" and that every excitement of their function increases local debility and general nervous exhaustion.

The ovaria are important organs of the female system. Their physical characteristics have an extensive influence throughout the body. They are subject to many tangible diseases. They originate the most extensive tumors, and are the seat of hydropsic disorders. These may originate in some obscure functional derangement that has heretofore eluded our research. There are well-authenticated cases on record of their displacement backward and downward into the recto-vaginal sac; and there is hardly a doubt that they may be involved in the gone-sensation that universally exists in these protracted cases. The sensation is so like that produced by pressure or disease of the testicles in the male, it affords additional reasons for the suspicion.

Dyspeptic symptoms and spinal irritation, are very frequent among our students, and others who lead a sedentary life, and in almost every instance they are greatly aggravated, if not produced by the habits we have been considering. They, as well as the other symptoms to which we have referred in these remarks, never occur before puberty, nor do they present themselves in the later stages of life. They exist only when the reproductive function is in full vigor, and if the powers of the system are not overcome as a consequence of the gross violation of nature's laws, they are apt to subside when the force and vigor of these organs are on the decline.

Prevention is the principal indication with the physician in these cases. The patient should be thoroughly instructed in the penalty which is decreed against the violators of nature's laws. He should be taught that every passion, and every appetite with which he is endowed, is given for a *specific* end; and when nature's designs are transcended, and a perfect equilibrium is destroyed, it produces a physical disease, in the same manner that a single mental faculty, when allowed to

supersede others, will work a destruction of the mind, and produce insanity.

In many instances, a consciousness that degraded habits are known, even to their physician, will work a reformation; hence an intimation of the cause will not unfrequently arrest the habit, and if not too long continued, the consequences resulting from it. Travelling—cold bathing—engagement in some active pursuit that will absorb the faculties of both body and mind—entire abstinence in thought, word, and deed, from the sin that so easily besets them, are all strongly indicated, to remove the habit. When this is done, the recuperative power of the system, aided by invigorating treatment, will do much, at least, towards removing the effects it may leave behind it.

The practical questions deducible from the facts and reasonings contained in this paper, are left for the consideration of this society, with an earnest hope that they may be the means of exciting curiosity, stimulating inquiry, and in the end terminate in practical results.

NOTE.—Since writing the above a medical friend has put into my hands the valuable work of Prof. Lallamand, of Montpelier. In this book are detailed numerous cases of the character of case 2d, above given; and to this treatise the reader is referred for a more extended exposition of that class of diseases embraced in the foregoing paper.

PART SECOND.

CRITICAL ANALYSIS.

ART. VII.—*A Practical Treatise on the Domestic Management and most important Diseases of Advanced Life.* With an Appendix, containing a series of cases illustrative of a new and successful mode of treating Lumbago, and other forms of Chronic Rheumatism, Sciatica, and other Neuralgic Affections, and certain forms of Paralysis. By GEORGE E. DAY, M. D., Fellow of the Royal College of Physicians, and Physician to the Western General Dispensary. Philadelphia: Lea & Blanchard. 1849. 8vo. pp. 226.

IN our last number we gave our readers a short notice of this interesting work. In the present we have thought best to lay before them a more particular account of its contents. There are in this volume some facts which, to say the least, to the junior members of the profession, must prove of value. Some facts which, if recognised and kept in view in practice, must prove useful and lead to successful results. That the therapeutics of old age, like those of infancy, must be greatly influenced by modifications which the period of life induces, is clearly to be seen; that diseased action must be equally so, is equally clear. Organic nature presents in all its departments, a period of growth, maturity, and decline. The process of disease must meet with modifications in each of these periods. And so great sometimes are these modifications that we are almost led to believe that complete and decided changes have taken place in "the constitution." Old age presents modifications in the anatomical figure of the human body. Certain organs present fixed peculiarities, which must, in a great degree, modify the due performance of their functions, and when diseased actions occur, must change, to a greater or less extent, their course and results. These peculiarities of anatomical figure may be easily recognised, particularly in the respiratory organs; the organs of digestion and circulation, and the nervous

system. These peculiarities of diseased action may be seen in the absence of reäction in many of the inflammatory diseases of old age, leading us to depend less at this period of life than any other, upon the *vis medicatrix naturæ.*

Dr. Day states, that the period of decline is most commonly observed to begin at about the 40th year in women, and the 48th or 50th in men, and that it is of the period of life succeeding this change, of the hygienic rules necessary to be observed during it, and of the diseases incidental to it, that he has to treat in the volume. We shall not stop to dispute with our author on the propriety of this division, but simply content ourself by the expression of the opinion that the division might have been extended at least to two if not three years later. So it seems at least to us, and this opinion we perceive is borne out by vital statistics. Of the anatomical peculiarities of old age, of which Dr. D. gives a good summary, we shall not enter into a special consideration, believing that all our readers, who have become careful observers, have long since noted them. The following general notice, however, we have thought best to present:—

The osseous structure of the chest is often materially changed in figure. Its upper portion is often flattened at the sides, thus diminishing its transverse diameter. The vertical diameter is shortened, caused principally by the absorption of the intervertebral cartilages, and as the anterior portion is most rapidly absorbed, we have forward curvature of the spinal column. In consequence of the preceding changes, the diaphragm is naturally altered in form, thrown into folds, the impressions of which are often well-marked on the upper surface of the liver. The lungs are considerably changed in their aspect. Hourmann and Dechambre have divided these changes into three types, the conclusions growing from which verify the law announced by Magendie, that the density of the lungs diminishes, as also does the quantity of the blood they admit, with the progress of age. Gradually the thorax accommodates itself to this change; it becomes atrophied as the lungs atrophy; it contracts as they contract; and the effused serum which they contain may be owing, at least in part, to the chest's inability to contract beyond a certain point; the lungs continuing to diminish, the serum fills the vacant space. The modifications of function consequent upon these changes are important. The movements of the chest in the transverse direction are much diminished; the diaphragm becomes the chief agent in inspiration; ordinary expiration is sudden and rapid; forced expiration, as in coughing and expectorating, is difficult. The changes from venous to arterial blood cannot be efficiently brought about.

The carbon which ought to be eliminated by the lungs as carbonic acid, is only imperfectly removed, and the corresponding volume of oxygen, which ought to be absorbed in its place, and be conveyed in the blood to every cell within the organism, carrying with it health and vigor, can no longer gain admittance into the system. By an altered state of the vascular tissue and the bronchial mucous membrane, an obstacle to the free escape of the aqueous vapor charged with organic matter is prevented, in consequence of which the lungs have a tendency to become œdematous, and Dr. Day thinks that the depositions so frequently found in them are probably dependent upon the same cause.

The modifications in the nervous system and its functions are not less in importance. The evidence which we possess that the size, weight, and specific gravity of the brain diminishes with advancing years, is clear. The same must be the case with the other portions of the nervous system. Owing to the absorption of the diploe, the skull is diminished in thickness. The membranes of the brain become thickened and more opaque, particularly the arachnoid and pia-mater. The quantity of blood is much diminished. The coats of the arteries of the brain lose their retractability, become frequently diseased. There is a considerable quantity of fluid in the sub-arachnoid cavity, indicating an increased space between the surface of the brain and the interior of the skull. In relation to this latter circumstance, according to Dr. Todd,* "there is strong evidence, tending to show that the occurrence of an increased quantity of fluid, either around the nervous centre or within the ventricles, is a *result*, and that probably, of *a conservative* kind, consequent on a change, which depresses the general nutrition of those organs." In connexion with the changes in the nervous system, our author notices those of the senses; these are so obvious to even the superficial observer, that we pass them by. The functional changes of the nervous system are clearly seen in the enfeebled energy of volition, and its influence over the muscular actions. The diminution of irritability and sympathy in all the textures of the body, and the absence of nearly all power of reäction after depression of any kind. Dr. Day believes that particular attention should be given to the bearings which *the isolation of the different organs*, consequent upon the period of decline, have upon the treatment of diseases in this class of patients. "The bond of nervous sympathy, (says he,) uniting the different organs into one living whole, seems to be weakened, and in some cases almost snapped asunder." As an illustration of the truth of this statement, a

* Cyclopædia of Anatomy and Physiology, vol. 3, p. 642.

lung may be entirely impermeable, or may be perfectly disorganized, yet the heart may afford no indication, either by its force or frequency, that one of the most essential of its vital functions is fast ceasing.

In the digestive organs, we find the muscular coat of the intestines more or less atrophied, and sometimes not a trace of it can be found; the villi and mucous follicles generally shrunken, and very little mucus is secreted. The capacity of the stomach is much diminished; so likewise is the caliber of the intestines; this change is dependent upon thickening of the mucous membrane. Upon this and the corresponding changes relating to the imperfect mastication of food, such as the absence of the teeth, and modified admixture of the saliva, must depend the peculiar forms of gastric derangements which exist in old people, and the diminished nutrition; the latter an almost uniform attendant of old age. The imperfectly digested food must yield an imperfect chyle; the organs for its elaboration are atrophied, the blood ceases to be produced in a perfect condition, and is, as it were, slowly poisoned at its birth.

Important changes take place in the organs of circulation. The lining membranes of the heart and great vessels, frequently present spots of ætheromatous deposits, and the free margin of the valve are thickened and much hardened. The arteries are deprived of their proper elasticity, owing to their containing deposits of calcareous salts and fatty matter, which condition predisposes to rupture of their coats and aneurism. The walls of the capillaries are invariably thickened, rendering their diameter smaller, and of a consequence, the circulation less free; this circumstance is also increased by the absence, in part, of the usual fluidity of the blood. Our author cautions the practitioner to "recollect the uncertainty of the indication afforded by the pulse at the wrist in the aged," and states that "*the pulse should be counted at the heart.*" We should also bear in mind the frequency of the heart's action is increased, as a general rule, and not diminished, as supposed by some physiologists. Dr. Day found that in 562 healthy women whose mean age was 73 years, that the average number of pulsations is a fraction over 79 in a minute, and that the average pulse is 197, healthy men of the mean age of 68 years, is 72.5.

Of Chapter II. on the preservation of health in declining life we are constrained to notice but a portion only, that relating to the influence of cold must suffice. The idea that cold produces a marked influence upon the mortality of the aged, is one of great antiquity. Celsus remarks "*Senes æstate et autumni primâ parte tutissimi,*" and this observation has been fully verified by statistical observations, according to

Dr. Day. The following table from Quetelet, and based upon 40,000, clearly shows this.

Ages.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sep.	Oct.	Nov.	Dec.
50 to 65	130	122	111	102	93	85	77	85	89	90	100	115
65 to 75	143	132	118	99	91	77	71	80	88	86	98	117
75 to 90	147	139	116	101	87	77	67	75	84	84	100	121
90 and upwards	158	148	125	96	87	75	64	66	76	74	103	129

The following, compiled by Dr. Day, from the mortality tables of the city of London, also confirms this fact, he says:—

The total number of registered deaths, at or above the age of 60, occurring in five years (from the first of January, 1843, to the 31st of December, 1847), amounted to 53,048; while the total number of registered deaths from age or natural decay, during the same period, amounted to 15,136. Reducing these numbers to a scale of 1000, we have the proportion for each month as follows:—

In 1000 deaths from all causes at 60		In 1000 deaths from old age, unconnected with any obvious disease.	
December	127.8	December	112.3
March	99.8	January	109.6
January	98.8	March	102.3
February	96.1	February	101.0
November	86 7	November	85.3
April	79.3	April	83.2
May	74.3	May	75.3
October	72.5	October	71.4
June	68.2	June	66.4
August	67.9	August	65.2
September	64.8	July	64.3
July	64.6	September	63.2
	1000.0		1000.0

We might here remark, *en passant*, that the annual reports of the city inspector of New-York, for the last three years, do not so clearly sustain the truth of the remark of the "Classic Celsus." While giving some general observations on the medical treatment of advanced life, in chapter third, our author introduces the subject of inflammation and the antiphlogistic treatment, especially blood-letting, He says—

"The physical conditions of the system in advanced life are strongly opposed to the progress of regular inflammatory action; there is, however, a condition dependent on venous congestion, that gives rise to symptoms that in many respects closely simulate it, and that are being daily mistaken for it. These symptoms, however, arise from want of

tone and power in the circulating system, and are connected with local plethora, arising from a deficiency of power to propel the blood forwards. Hence, while endeavoring to remove the local stasis, we must carefully avoid any generally depressing treatment. Slight topical bleedings, either by leeches or cupping, may be advantageously combined with remedies of a tonic and slightly stimulating character, given with the view of equalizing and improving the tone of the circulation. Venesection is not to be thought of. In these cases the lancet is more fatal than the disease."

At no period of life are stimulants more necessary than in old age, and among this class of remedies there is no agent that holds so high a rank as camphor. Narcotics are required at this period less than almost any other therapeutic agents. The discovery of chloroform, and the power it possesses as a solvent of camphor, has proved of immense value in the treatment of many of the diseases of advanced life. In many of the painful affections of the nervous system it is invaluable, combining as it does all the properties of a soporific and stimulant.

The diseases most fatal to persons in advanced life, as shown by the Registrar General's tables for the last five years, are enumerated in chapter sixth. The following table, prepared by Dr. D., gives the comparative frequency of the cause of death at and after 60:

Of 1000 persons who have attained that age, there die of old age,			285·3
Diseases of the respiratory organs	Bronchitis	79·3	237·5
	Asthma	62·4	
	Consumption	35·7	
	Pneumonia	27·1	
	Hydrothorax	10·4	
	Other diseases	22·6	
Diseases of the nervous system	Apoplexy	53·0	130·9
	Paralysis	51·2	
	Other diseases	26·7	
Diseases of the digestive system			59·2
Diseases of the circulating system	Diseases of heart	51·3	53·5
	Pericarditis	1.3	
	Aneurism	0·9	
Diarrhœa			20·3
Influenza			14·2
Erysipelas			7·8
			808·7
Other diseases			191·3
			1000·0

"The remaining 191·3 in the 1000 is made up in a great measure of

cases of typhus and dropsy (neither of which have been tabulated by me, because the former is made to include all cases of continued fever, and because the latter is a symptom and not a disease, and may arise from very different sources); of cases of diseases of the urinary organs, of cholera, dysentery, cancer, gout, rheumatism, etc."

Our author adopts, to considerable extent, the arrangement exhibited in the foregoing table. In chapter seventh he treats of the diseases of the respiratory organs, and then in succession those of the nervous, digestive, and circulatory organs, finishing up the volume by considering the diseases of the genito-urinary organs, together with gout, rheumatism, etc. In considering the diseases of the respiratory system, he commences with pneumonia. It will not be our object to follow Dr. Day through, even in a cursory manner, all the diseases of which he treats, but we shall single out one or more from each of the systems enumerated in the foregoing table, and endeavor to present in as clear a manner as possible the value of the peculiar views (if they may be called so) which he advances. By reference to the table, it will be seen that according to the Registrar General's report, bronchitis heads the list, and that it does so from the fact that it claims a greater mortality. Dr. Day doubts the accuracy of this claim, and founds his doubts upon the valuable memoir published some ten years since by Prus.* This memoir contains the results of examinations of 390 persons, at the Bicêtre, whose ages ranged from 60 to 90. Death was found to be dependent on diseases of the respiratory organs in 149 cases. The following is the table showing the comparative frequency of each disease:

"There were 77 cases of pneumonia, 6 terminating in abscess of the lung.
" 26 " pleurisy.
" 18 " tubercular consumption.
" 10 " asthma.
" 8 " bronchitis.
" 4 " pulmonary congestion.
" 3 " asphyxia from meteorism dependent on indigestion.

"The remaining four were isolated cases of comparatively rare disease."

From the above table it will be seen that the deaths from pneumonia were to those of bronchitis, nearly as 10 to 1, showing that in all probability there is a great error in the English mortality tables, (which are not based on post-mortem examinations.)

* *Mémoire sur les Maladies de la Vieillesse*, in the *Memo. de l'Acad. Roy. de Méd.*, 1840.

The symptoms of pneumonia, according to Dr. Day, do not vary much from those of the adult, except in the signs furnished by auscultation and percussion. The crepitation so characteristic of the first stage of pneumonia in the adult is in old age very rare. It is usually replaced by a sub-crepitant rhonchus, dependent upon the passage of air in large bubbles and through more fluid, and originating in the increased size of the pulmonary cells, and the general tendency to mucous discharges from the pulmonary mucous membrane. The resonance of the voice is not so constantly associated with the bronchial respiration as in the adult. Feebleness of the respiration, or its complete absence over a certain extent, combined with bronchophony, are sometimes the only stethoscopic signs; and according to Dr. D. may be regarded as affording a pretty certain indication of the disease. In relation to the progress of pneumonia in old people, and the signs furnished by auscultation, Dr. Day says that there is undoubted evidence to believe it occasionally passes through all its stages without giving rise to any perceptible morbid sounds.

Neither does the circulating system present any sympathetic evidence at all characteristic of the rise and progress, or existence of inflammatory action. It is a much less trustworthy guide than in earlier life. "In some cases, where the inflammation is most acute, no change is observable in its frequency." Not unfrequently it is small and intermittent. The general febrile reäction is absent, or is less marked than at an earlier period of life. "In pneumonia of the apex of the lung, the face *almost invariably* presents a jaundiced tint."

The progress of the disease is very rapid. The mean duration of 33 cases that recovered, was fourteen days; while in 76 fatal cases the mean duration was only seven days. (Hourman and Dechambre.) The prognosis is highly unfavorable. This opinion is confirmed by the experience of Grisolle, Prus and Chomel. The ratio of mortality seems to vary directly with the age; according to our author, the extreme difficulty of breathing, and abdominal respiration are always bad signs. Lividity of the countenance, the struggle for breath, the incapacity to expectorate, a small pulse, disturbance of the intellectual faculties, loud rattles over the chest, and a cold sweat, taken collectively, afford pretty certain signs of the near approach of death. The free expectoration of thick yellow sputa is regarded as a favorable symptom.

The use of venesection in the treatment of this fearful disease, is yet considered to be *sub judice*. The stronger evidence appears to lie in its favor; nevertheless, Dr. Day thinks "it cannot be had recourse to without fear and trembling;" he prefers local depletions, by leeches and

cupping, and believes that, with some very rare exceptions, it will be found equally serviceable in combatting the disease. If venesection be resolved upon, it should be put in requisition at once, "it is only at the commencement of the attack that it can be serviceable." Antimonials must be used with great caution. The depressing effect of tartarized antimony is as clear and striking as in the period of childhood. The stimulating expectorants, combined with ipecac. and antimony, Dr. Day has found to be followed by good results when there is a want of power to throw off the mucus from the bronchial tube; camphor may also be prescribed with advantage, in doses of from two to five grains. In the management of the second and third stages of the disease, Dr. D. presents no new treatment for the consideration of the profession. He has not been able to verify in practice the view of Remak in reference to the ramifying bronchial coagula, said by him to be present in the sputa of patients laboring under pneumonia.

Passing by the remaining diseases of the respiratory organs spoken of in the work, we stop to notice a portion of Chapter VIII., devoted to a consideration of the diseases of the nervous system. Apoplexy and paralysis claim Dr. D.'s first notice. The mortality from these two diseases alone, during a period of five years, according to the Registrar General's report, was 5618, of this number, 2812 were ascribed to apoplexy, and 2806 to paralysis. The symptoms which lead us to suspect apoplexy in the aged, are often very deceptive. According to Dr. D., aged persons are liable to a peculiar form of head affection, dependent, for the most part, upon passive congestion, arising from want of tone in the vascular system. The only available practice in these cases, is to vary the position of the patient, with a view to guard against mechanical stases at particular parts of the brain, and unless there are obvious contra-indications, to administer tonics and mild stimulants. Dr. D. has found the compound infusion of horseradish a good stimulant in these cases; the practitioner should look out for, and guard against them in all long-continued illnesses, especially when there is a want of tone in the vascular system.

A flushed state of the countenance, a tendency to sleep, vertigo, nausea and headache, a general incapacity for exertion, and an indescribable sensation of weight about the limbs, torpor and numbness, or else a sensation of formication or itching of the extremities, double vision, muscæ volitantes or coruscations, difficulty of enunciating certain words, the substitution of one word for another, and indescribable and unaccountable feeling of impending danger, etc., etc., to which

may be added the "*cerebral respiration*,"* of Dr. Graves of Dublin, and which, in some instances is well marked, are all enumerated by Dr. Day, among the premonitory symptoms of this disease. The treatment is by no means satisfactory; local blood letting, from the nape of the neck or between the shoulders even, in a majority of cases, is said to increaae the danger. When blood letting in any form appears to be called for, it should be used with the greatest caution. Where a more or less paralyzed state follows as a consequence of the congestion or effusion, regular friction with horse-hair gloves, Dr. D. thinks, should have a fair trial before other means are resorted to, and this should be followed by mildly stimulating liniments. If these means fail, he then resorts to the use of electro-magnetism; a weak current should be used, and if found to excite much pain, there is reason to believe that it is doing more harm than good. He has found it to succeed when all other means failed. In aged persons, he has scarcely ever seen any good effects from the use of strychnine in this disease.

Cerebral softening very properly receives a share of attention. He speaks of it under two heads: 1st *acute* softening; and 2d, *chronic* softening. The first form presents scarcely any premonitory symptoms.

"When premonitory symptoms occur, they usually present themselves as intense headache, vertigo, formication, cramps, etc.

In persons of sixty and upwards the acute form is the most common; there is sudden loss of consciousness, contortion of the features, and the limbs on one side are rendered more or less insensible to external impressions, and either lie immoveable and devoid of all power, or else are powerfully flexed. Persons thus attacked often die in a few days, without any return of consciousness; but in the majority of cases consciousness gradually returns, and the use of the paralyzed parts is to a certain degree restored. This apparent improvement is, however, transitory and deceptive, for a progressive torpor of the intellectual faculties is soon perceived, while the paralysis extends and becomes more perfect; and the patient, if not cut off by some of the complications to which I shall presently refer, dies in a state of coma.

As the softening progresses, we sometimes (in about a quarter of the cases) have a considerable amount of frontal headache. Dulness of the intellectual faculties and loss of memory, are almost invariably to be observed; the mouth is drawn on one side, and there is often strabismus. Patients complain of cramps, pains, a sensation of cold and formication in some of the limbs, and sometimes there is partial paralysis. Contraction of one or more of the limbs is a symptom, whose importance has, I think, been overrated by Lallemand and some other

* The breathing in this symptom is permanently irregular, and interrupted by frequent sighing, going on for a minute or two at one rate, then for a quarter of a minute or so at another rate. This condition is almost pathognomonic of cerebral disease.

authors. It certainly does not occur in half the cases of which we have authentic records.

Those who have made cerebral softening their especial study, assert that a very opposite class of symptoms is occasionally noticed; that there may be cerebral excitement, violent delirium, and convulsions.

The rapidity with which the disease runs its course is sufficiently obvious from the following table, founded on fifty-nine cases (twenty-seven of Durand Fardel, sixteen of Rostan, and sixteen of Andral).

Death occurred 11 times during the first two days.
" 26 times before the fifth day.
" 43 times before the ninth day.
" 7 times between the ninth and the twentieth days.
" 9 times between the twentieth and thirtieth days.

Death is seldom preceded by any febrile symptoms. It occasionally happens that the disease merges into the chronic form; and sometimes, but very rarely, there is a gradual remission of the symptoms, and a restoration to perfect health."

The chronic form presents, according to Dr. D., nearly the same class of symptoms, only they are more gradual in their rise and progress.

"In the majority of these cases, the patient complains of a feeling of discomfort, headache, vertigo, and stupor, which may last for weeks and months; then follow more marked symptoms—difficulty in speaking, numbness, formication or pricking of the limbs, and especially of the fingers, partial loss of power and motion, shown, for instance, in one leg dragging in walking, or in the inability to grasp objects firmly.

Contraction of the limbs in these chronic cases is much more frequent than entire loss of power, whereas the reverse holds good, in acute softening: it must not, however, be regarded as a constant symptom, being absent in at least one-fourth of all the recorded cases; neither must it be regarded as a certain diagnostic sign of this disease; it is met with in connexion with disease of the membranes without any affection of the cerebral substance, in cases of mere cerebral irritation, etc. Pains in the limbs and joints generally accompany these contractions; they are usually much aggravated by motion, but not increased on pressure. There is commonly a partial, but scarcely ever a perfect loss of sensation in the paralyzed and flexed limbs. The face becomes partially drawn aside, and the features are devoid of expression. The memory is gradually lost, the ideas become confused, and all reasoning power disappears. It becomes difficult to speak, in part from the required words being forgotten, and in part from loss of control over the organs of speech. The mental condition of the patient is but a few shades superior to that of the idiot. The paralysis gradually extends, the power of retaining the contents of the bladder and rectum disappears, the limbs waste away, and yet the force with which they are flexed is almost incredible, and thus the patient sinks, utterly unconscious of his own pitiable condition. In some cases the flexure ceases and the limbs relax shortly before death.

Such are the ordinary symptoms of chronic softening. We occa-

sionally however meet with cases in which extensive softening is revealed after death, but in which no perceptible symptom is appreciable during life; and again, in which some time previous to death the symptoms have much abated."

The causes and treatment of both forms of this disease are equally unsatisfactory. The diagnosis is attended with great difficulty, and according to Dr. D. it may be mistaken for inflammation of the brain or of its membranes, for congestion, for cerebral or meningeal apoplexy, or for morbid growths or deposits in the brain. The diagnosis must be determined by the weighing of opposite probabilities. Our author states that the paralysis dependent upon softening of the brain is never relieved by external applications or by strychnine.

The diseases of the digestive organs claim next the attention of Dr. D. In the consideration of the diseases of this system, nothing new appears to be developed; we therefore pass it by, and proceed to notice his observations on the diseases of the organs of circulation. The division into functional and organic is adopted by our author. The statement that the size of the heart and the thickness of its walls usually diminish with advancing years, Dr. Day believes to be strictly correct; although the extreme frequency of change in the aortic valves, in the coats of the aorta, and in the capillaries, giving the heart additional work to perform, renders a certain degree of hypertrophy remarkably common, and hence has led some of our best observers to conclude that in the majority of cases the heart continues to increase to the end of life. Palpitation of the heart is a common disease in old persons; its treatment rests upon the same general principles as in earlier life. There is a peculiar form of palpitation depending simply on weakness of the heart's action. Dr. Day, in speaking of it, says—

"In place of the ordinary impulse we perceive a mere flutter or tremor; the pulse is weak and irregular, and seems to disappear on pressure; and the body generally presents the ordinary signs of debility. In these cases our main object is to invigorate the patient. We must recommend a highly nourishing diet, a moderate allowance of wine, and a residence in a dry, bracing locality, whilst the strictly medical treatment must consist in the administration of stimulants, as ammonia or ether, of quinine and the other vegetable bitters, of the mineral acids, and subsequently of the milder chalybeate waters."

In the treatment of neuralgia of the heart, a disease closely simulating angina pectoris, our author recommends a liniment composed of equal parts of tincture of aconite and soap liniment, to be applied

to the cardiac region; at the same time care should be taken to relieve any disordered condition of the digestive organs, which not unfrequently greatly aggravates the severity of the disease. The organic diseases of the heart are but cursorily noticed. He alludes to the peculiarities of action dependent upon the anatomy of the aged heart, and quotes a passage from Hasse's admirable work, which is as follows: "The progressive enlargement of the two auriculo-ventricular openings is tolerably uniform, that of the two arterial mouths differs; both increase equally until the meridian of life, but the aortic orifice enlarges more rapidly in advanced age than that of the pulmonary artery, so that in old persons the latter is even narrower than the aorta." Dr. Day thinks "this enlargement of the orifices is undoubtedly dependent on the prolongation of the heart's action, and probably takes part in the intermittence and irregularity of its beats, which are so commonly observed at this period of life."

The following remarks, says our author, apply to the treatment of all the forms of organic disease of the heart:

"We must not be induced by the apparent urgency of the symptoms to open a vein without well weighing the danger. Those who have seen the alarming syncope—the temporary death—that in certain states of the heart may be produced in old persons by a slight venesection, will hardly require this caution. The livor of the face and lips may be intense, and the orthopnœa almost insupportable, and yet we may relieve the patient as effectually, although perhaps not so rapidly, by stimulating the circulation in the skin by friction, liniments, etc., by immersing the legs and feet, and if necessary the hands and arms, in hot water to which mustard or nitro-muriatic acid has been added, by the administration of musk and camphor, and by tincture of assafœtida given with a little gruel as an injection. If these means are not sufficient, a few leeches applied to the cardiac region, or a cupping-glass between the shoulders, are usually as effective in allaying the urgent symptoms as venesection would be, and are unaccompanied by danger.

In incipient dropsy from heart disease, digitalis, properly administered, will often do away with the apparent necessity for bloodletting. In advanced life it is usually advisable to combine it with bark or steel. Is digitalis of service in heart-disease when it exerts no action on the kidneys?

A great deal of our success in treating organic diseases of the heart consists in the proper management of the organs of excretion, especially of the kidneys, and of the bronchial tubes, and in a due and very strict regulation of the diet. All influences, whether corporeal or physical, which disturb the regularity of the circulation, must be most carefully avoided. There are, I believe, no cases in which the patient will not find relief from sponging the chest daily with cold water, and from the subsequent application of a rough towel and the flesh-brush."

While considering the diseases of the urinary and generative organs, Dr. D. speaks of retention of urine dependent upon paralysis of the bladder, and mentions that in the treatment of this affection, he has found that ergot has proven a valuable remedy in his practice. His formulæ is six ounces of ergot to one pint of spirits, a drachm of which may be given in an effervescing draught of citrate of ammonia. In chronic inflammation and catarrh of the bladder, Dr. D. recommends a decoction or infusion of pareira brava, the diosma crenata, and uva ursi, combined with hyociamus, or small quantities of nitric or muriatic acid. He also recommends weak injections of nitric acid, after the bladder has been washed out with tepid water, the solution being allowed to remain for not more than half a minute. Dr. Day makes a few remarks on the varieties of urinary deposits and their connection with the affections of gravel and stone, and expresses it as his opinion that in nineteen out of twenty cases the solution of stone can be brought about, by medicines administered by the mouth or by chemical agents thrown into the bladder, thus obviating in most cases the necessity of resorting to the operation of lithotomy. On this point we quote our author's own words:

"I have hitherto abstained from offering an opinion on the possibility of effecting the solution of stone in the bladder, but I should be unwilling to conclude this section without expressing my most decided conviction, that in nineteen cases out of twenty a surgical operation might be dispensed with. Why then do affections of this sort fall almost invariably under the hands of the surgeon and not of the physician? I believe that there are two reasons sufficient to account for this. One is, that surgeons have, with few exceptions, never advocated any means proposed for this disease, which did not in some form or other involve an operation; they have clung affectionately to lithotomy as one of the glories of pure surgery. The other is, that a patient who has suffered from the exquisite tortures of stone is likely to choose the means that promises the speediest relief. The surgeon can effect, in a few moments, as much as the physician can hope to do in as many weeks, or perhaps months. But does the patient consider the risk at which this almost instantaneous relief is afforded? I say nothing of the physical pain, for since the discovery of the anæsthetic properties of chloroform the worst forms of human suffering have been annihilated; I refer merely to the danger attendant on the operation. Taking the data afforded by the Bristol and Norwich tables, I find that of one hundred and twenty-four persons operated on between the age of 50 and 60, thirty-one, or one in four, died; of sixty-one persons between the age of 60 and 70, twenty-seven, or one in two and-a-quarter, died; while of ten persons between the age of 70 and 80, three, or one in three and-a-third, died."

Chapter XII. which follows this, is devoted to a summary notice of

the diseases of the skin, ulcers, and senile gangrene. We pass this by, in order to notice more fully the concluding chapter of the volume, devoted to the consideration of gout and rheumatism. Dr. Day believes that gout is dependent upon the existence of uric acid or urate of soda in the blood; in this opinion he is sustained by the researches of Dr. Garrod, who has succeeded in separating the crystals of uric acid from the blood. When the acute form of gout shows itself in advanced life, it is more commonly acquired than hereditary, and is not usually so amenable to treatment. The description given by Dr. D. of the symptoms of both forms of the disease is much the same as that laid down by previous writers. The treatment is thus sketched by Dr. Day:

"I believe that, for some time previous to an attack, the liver is generally torpid and congested, that there are accumulated fæces in the large intestines, that the digestive mucous membrane is in an irritable condition, and that the blood is loaded with effete matter. Most authors recommend venesection in such cases; there may be cases in which it is advisable, but in most instances a few leeches applied to the anus, will produce at least equally good effects, without depressing the patient. If the patient have suffered from a hemorrhoidal discharge, we should attempt to re-establish it by aloetic purgatives; and where these fail, aloetic injections sometimes succeed. If the tongue be very foul, and the patient suffer from heartburn, a mild emetic, (fifteen grains of ipecacuanha) is frequently useful, where there is no pain or tenderness in the epigastric region, and if none of the causes which often render the action of emetics dangerous to old persons, as hernia, for instance, be present. Purgatives are always of service in these cases, although the patient may declare that the bowels are regularly open. I usually prescribe a combination of calomel and blue pill (two or three grains of each) to be taken at bed-time, and a warm stomachic purgative the following morning. By the occasional repetition of these means, together with moderate diet, regular exercise, and care in guarding against mental or bodily fatigue, a threatened attack may be often averted, and always mitigated. * * * * *

With respect to the treatment during the paroxysm, it must be recollected that I am speaking of gout as it occurs in advanced life. I shall say nothing of blood-letting, further than that even in adult life, and in strong constitutions, I have never seen any decided benefit from it. Although leeches applied to the affected joint mitigate the pain, they also prolong the attack. Neither shall I notice the innumerable medicines—the purgatives, emetics, diuretics, diaphoretics, and narcotics—that have at different times been recommended in the treatment of this disease. I will simply give the course of treatment which experience has shown to be most commonly efficacious. The three great points to be attended to, are to regulate the action of the liver and bowels by mild mercurials and warm aromatic purgatives, to relieve pain by means of opiates, or in very severe cases, when the patient's tortures prevent sleep, by chloroform, and to diminish the local inflammation by colchicum."

Dr. Seymour has lately recalled the attention of the profession to the use of a decoction of burdock root (actium sappa, U. S.) "as an adjunct to other remedies in acute gout." The following is Dr. S.'s formula and directions:—Two ounces of the sliced root are well washed, and are *slowly* boiled in a pint and a half of water; the fluid is reduced to a pint, and then strained. This pint is to be drank in the course of the twenty-four hours. If the patient does not object to the increased quantity of the fluid, it may be mixed in an equal bulk of milk. It should be continued for several weeks. The local treatment is thus spoken of by our author:—

"When the tension of the skin is very great, I usually recommend that the part should be kept moist with sweet or castor oil. I do not know, however, that the latter is any better than the former. I have likewise found that relief is sometimes afforded from the application of combed wool, and swansdown; in like manner the pain is often very considerably mitigated by rolling the affected part in oil-silk; but in old persons with a dry skin, it sometimes rather increases than diminishes suffering. There is a large mass of evidence in favor of the application of the moxa during the paroxysm, but I have no personal experience of its effects in these cases. I have frequently prescribed small blisters about the size of a crown piece to the joint with very obvious advantage, at the commencement of the fit. The local abstraction of the serum often gives considerable relief. Although putting the foot in cold water, and the applying refrigerant lotions may undoubtedly allay the intensity of the pain, it is to be feared that this fool-hardy practice has too frequently resulted in apoplexy, paralysis, and gout in the vital organs."

Particular attention should be paid to diet, which should be regulated entirely by the condition of the patient. The treatment of the chronic form must be conducted on much the same principles as in the acute. Local applications in this form are of more value than in the acute. Stimulating liniments may be rubbed in with much advantage in cases of an indolent nature. Dr. D. speaks strongly in favor of the good effects of painting the affected part with an alcoholic solution of iodine. In his short observations on rheumatism, nothing new is presented for the attention of the profession.

The volume before us closes with a short appendix, written for the purpose of calling the attention of the profession to what is termed the "*thermic treatment of lumbago, and other forms of chronic rheumatism, sciatica and other forms of neuralgia, paralysis, etc., etc.*" This treatment "consists essentially in the instantaneons application of a flat iron button, gently heated in a spirit-lamp, to the skin. It is an operation completed in a few seconds, productive of little or no pain,

immediate in its effects, and altogether incapable of injuring the pasient." Dr. D. gives the credit of the originality of this form of counter-irritation to Sir Anthony Carlisle. Dr. Corrigan, some three years since, published an account of some cases successfully treated by him by similar means. Dr. Day's mode of application differs slightly from that of Dr. C. In speaking of his own mode, he says, that "the instrument that I employ is shorter and more portable than that recommended by Corrigan. The button, which is about half an inch in diameter, and a quarter of an inch in thickness, is connected by an iron shank, with a small wooden handle. The whole instrument resembles a very small hammer. The shank is curved nearly at a right angle, at about half an inch from the upper surface of the button. On heating the button, which is effected in about a quarter of a minute by the flame of a spirit-lamp, I place the end of the forefinger on the curve; when the heat becomes uncomfortable to the finger the instrument is ready for use. Dr. Corrigan's mode of applying it is to touch the surface of the part affected at intervals of half an inch, as lightly and rapidly as possible. I have usually found more service from very lightly drawing the flat surface of the heated button over the affected part, so as to act on a greater extent of surface. The cuticle is never raised, and the only visible effect is a slight degree of local redness, either in lines, according to my plan, or in circular patches if Corrigan's directions are followed. In his paper he relates a case of paralysis of the upper and lower extremities cured by applying the button daily for about three weeks along the spine, thighs, and legs; cases of lumbago and other forms of muscular rheumatism, of sciatica, of neuralgia of the fifth, and paralysis of the seventh pair of nerves."

Several cases are related by our author, illustrating the use and the beneficial results of this mode of treatment, of which, if our time and space would permit, we would most gladly present a summary to our readers. Sufficient, however, has been said to furnish a clue, at least, to the mode of use of this remedial agent, and the sketch of which must close our notice of this volume.

BIBLIOGRAPHICAL NOTICES.

ART. VIII. *A Theoretical and Practical Treatise on Human Parturition.* By H. MILLER, M. D., Professor of Obstetrics, and the Diseases of Women and Children, in the Medical Department of the University of Louisville. Louisville: John V. Cowling and Geo. C. Davis; Cincinnati: H. W. Derby, & Co.; New-York: A. S. Barnes & Co. 1849. 8vo. pp. 463.

Parturition and the Principles and Practice of Obstetrics. By W. TYLER SMITH, M. D., London. Lecturer on Obstetrics in the Hunterian School of Medicine. Philadelphia: Lea & Blanchard. 1849. 12mo. pp. 395.

Practical Compendium of Midwifery. Being the Course of Lectures on Midwifery, and on the Diseases of Women and Infants; delivered at St. Bartholomew's Hospital. By the late ROBERT GOOCH, M. D. Prepared for publication by GEORGE SKINNER, Member of the Royal College of Surgeons, London. Fourth American edition. Philadelphia: Barrington & Haswell. 1849. 8vo. pp. 339.

THE first named work in this article is purely a Western work, an emanation from the medical press of "the far off West." If no other evidence of this latter fact was present, the author's "preface" would be convincing proof. It speaks out clearly the workings of a mind accustomed to think, and shows with marked decision the peculiarities of it. The object which the author, as he states, had in view in the publication of this work, was to render more accurate and intelligible our knowledge in relation to the mechanism of the process of parturition. 'To review the whole subject of presentations and positions with the light which his own experience and that of others has shed upon it, since the time of Boudelocque, and establish for them a classification and nomenclature which, it seems to him, all may adopt." The classification which he recommends, is that of M. Dugès, but the nomenclature he claims to be his own. Neither time nor space, on the present occasion, will permit us to enter into a consideration of the success of Dr. Miller's endeavors. Of his fitness for the execution of his task, we will allow him to speak to our readers in his own words. We extract from the preface: "You are to know, indulgent reader, that the author of the work you are now peeping into is a man rather advanced in life (though you may not be precisely informed of his age—that is a delicate point—), who has seen

much, and read some, touching the subjects he proposes to handle; and has withal been accounted qualified to teach others what it has been his chief pleasure to practise, since he was a very young man. He loves his vocation, notwithstanding the difficult and responsible duties it imposes, and would not exchange it for any other; to this attachment, more than to superior capacity he honestly ascribes whatever proficiency or eminence he may have attained in it. Reader, if you have not this love, you have mistaken your calling. For the rest, the author is a back-woodsman, having been brought to light in Kentucky, by a process which it is his purpose to unfold in this treatise. His education was not acquired in academic halls, but in the primitive school-houses of his native state, and upon the ample sward, shaded by forest trees, appurtenant thereunto; so that you see that he was reared after the fashion of Socrates, imbibing knowledge in the school-house under the shade of the trees, and not unfrequently perched upon their boughs." The time spent in the perusal of this work, we assure our readers will not be lost. There is a good deal of originality in it, and we believe the work to be a good addition to Obstetric Science.

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The second named work, that of Dr. Smith, is dedicated to Marshall Hall, and presents a statement of the bearings of the "Reflex Doctrine" of the nervous system upon the process of labor, and the consequences of it. The author of this work states that he commenced the study of Reflex Obstetrics in 1842; since which time he has paid close and earnest attention to the subject. The present work is the result of that attention and study. Reflex obstetics is a new department of the reflex function and its applications. In treating of the bearings of this doctrine, Dr. S. says, that "taking the whole range of reflex physiology, the cause of labor is only second in importance to the cause of respiration, and no one had perceived that the relation of the ovarian nerves to parturition is the same as the relation of the pneumogastric nerves to respiration." There is much originality of thought developed throughout the course of this work, and although we are disposed to believe that well ascertained facts and cautious inductions not unfrequently are superseded by hypothesis alone, still we feel assured that a few years hence will show us that a marked "change has come over the spirit of the times" in relation to this branch of medicine. A new field has here been opened for investigation, and a certain current given to the course of study which must lead to beneficial results. The mechanical views, heretofore so prevalent, will and must receive a blow which will shake their very foundations. The

following extract from this work must suffice for the present; on a future occasion we intend to lay before our readers an analysis of its contents.

"The reflex actions of the uterus are very numerous, and it is upon these, and the numerous extra-uterine reflex actions excited during the process, that the natural performance of parturition essentially depends. Contraction of the uterus, from irritation of the mammæ, as in the act of suckling the child; contraction of this organ from the cold water douche, applied to the vulva or the abdominal surface; contraction excited by irritating the rectum, as by stimulating enemata; or of the stomach, by drinking a gulp of cold water; of the ovaria, by the presence of the menstrual nisus; of the vagina, by manual irritation, as in "taking a pain;" of the os uteri by irritation, as in the introduction of the hand into the uterus—are all to be considered as so many instances of reflex spinal action. Thus, in parturition, the uterus may be excited, in a reflex form, by irritation of the mammary incident excitor nerves; the pubic and abdominal branches of the intercostals; the rectal; the gastric division of the pneumogastric; the ovarian nerves; and also by the nerves of the vagina, and the os and cervix uteri.

"Many of the different forms of abortion—particularly when the causes are extra-uterine—strikingly illustrate the reflex action of the uterus. A series of cases of abortion would be one of the best expositions of reflex uterine action. Abortion may be caused by irritation of the mammæ, from the sucking of an infant, after milk has ceased to be secreted, as in cases in which the mother becomes pregnant during lactation; abortion may be excited, as a morbid reflex act, from irritation of the bladder, by a calculus; by irritation of the trifacial nerve, as in cutting the dens sapientiæ; by the mechanical irritation of coïtus; by plugging the vagina; by disease of the os and cervix uteri—malignant or simple induration, inflammation and ulceration; by the irritation of the placenta attached within the uterine mouth; by ovarian irritation in ovarian disease; by irritation of the rectum, as from ascarides, and the use of irritating purgatives or enemata; by puncturing the membranes, and evacuating the liquor amnii, so as to bring the head of the fœtus to act as an excitant to the os uteri; by irritation of the inner surface of the uterus itself, in cases of blighted fœtus, where the ovum acts as a foreign body; by riding on horseback, or any other violent exercise calculated, by succussion, to bring the head of the fœtus into violent contact with the os uteri; and by other sources of irritation to incident spinal nerves which might be enumerated. All these are so many instances of uterine reflex action, the distant parts of the economy being brought into connexion with the uterus through the medium of the spinal marrow and its special incident excitor and reflex motor nerves. These facts are of most extensive practical application in devising means for the prevention of abortion."

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The well known and deserved reputation of the lectures of Dr. Gooch, renders it scarcely necessary for us to notice it further than to mention

the recent publication of a new edition. There are probably but few physicians who have not read these excellent lectures. To such of our readers as have not, (if there be any such,) we would say that the perusal of them cannot fail to impart useful and practical information—a remark which will not apply with equal propriety to all the emanations from the press on this and kindred subjects, at the present time. We most cheerfully call the attention of the profession to this edition, which, in point of typographical execution, etc., is in full keeping with the enterprising spirit of its gentlemanly publishers.

ART. IX.—*Human Anatomy.* By JONES QUAIN, M. D., Edited by RICHARD QUAIN, F. R. S., and WILLIAM SHARPEY, M. D., F. R. S., Prof. of Anatomy and Physiology in University Coll., London. First American from the fifth London edition. Edited by JOSEPH LEIDY, M. D. In two volumes. With over five hundred Illustrations. Philadelphia: Lea & Blanchard. 1849. 8vo. pp. 638—639.

We have here one of the best expositions of the present state of anatomical science extant. There is not probably a work to be found in the English language which contains so complete an account of the progress and present state of general and special anatomy as this. The English editors, Drs. Quain and Sharpey, have thoroughly and carefully incorporated into this work the researches of modern anthropotomists and histologists of continental Europe; thus rendering it one of the best works within the reach of the devotees of this department of medical science. In the language of Dr. Leidy, "the department of general anatomy or histology, so important to a proper understanding of physiology, will be found to have been minutely and ably discussed and brought up to the day." The book is also the first systematic treatise in the English language, containing the history of the ossification and development of the individual bones of the skeleton, which must render it of peculiar value to the anatomist. Topographical anatomy, as also abnormal arrangements of the arteries and veins, has been fully attended to; and the whole being illustrated by more than five hundred well-executed wood engravings, cannot fail of rendering it a valuble book, and an acceptable offering to the American student. Such are some of the leading characteristics of the work before us. The descriptions which it contains are remarkably clear and explicit. The American editor has done his task with credit, and a glance at the typographical execution of the work will show that its enterprising publishers have acted their part well in this respect—and in presenting to the

American profession this edition, have placed us all under lasting obligations. By the anatomist this work must be eagerly sought for, and no student's library can be complete without it.

Art. X.—*The Pathology and Treatment of Asiatic Cholera* (so called). By A. L. Cox, M. D. Second edition. New-York: John Wiley. 1849. 12mo. pp. 77.

The Cholera; its Causes, Prevention and Cure. By Charles Richardson, M. D. New-York: D. Appleton & Co. 1849. 8vo. pp. 32.

We have here laid before us for notice two works, intended principally for the public eye. We do not deem it necessary for us to enter into a consideration of the contents, much less the motives which have led to their preparation. These will readily suggest themselves to the strictly professional reader, and therefore need no comment at our hands. Suffice it to say, that such of our readers as feel inclined to give them a reading will find some "original ideas," if not new modes of reasoning, the rarity of which will fully compensate them for the time spent in their perusal.

Art. XI.—*Rigby on Dysmenorrhœa and other Uterine Affections, in connexion with Derangement of the Assimilating Functions.* Barrington & Haswell's Medical Bulletin for February, 1849. Philadelphia, 1849. 4to. pp. 40.

By some inadvertence, unintentional on our part, this valuable little monograph, republished in the present form by Messrs. Barrington & Haswell, of Philadelphia, escaped our notice in its proper time. This work of Dr. Rigby has been before the English public for some time, and at home, as well as abroad, has many ardent admirers. It is dedicated to its author's "excellent friend" (Dr. Prout,) to whom Dr. R. acknowledges his indebtedness for much valuable information. He considers Dr. Prout's work on Stomach and Renal Diseases to have been the foundation upon which he has ventured to build this little superstructure. At the end of the work is given a few brief observations on the mode of conducting an examination of the urine under the more ordinary conditions in which it occurs.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PHYSIOLOGY.

Conclusion on the Physiology of the Nervous System. By R. B. Todd, M. D., F. R. S. (*Med. Gaz.*) Dr. Todd, in a recent lecture, delivered at the Royal College of Physicians, London, has presented the following conclusion, which he believes the present state of our knowledge warrants us in assuming to be proof respecting the mode of action of the nervous system in a state of health.

1. That the nervous system, accumulated in masses, and spreading by its nerves throughout the body, mingling with the proximate elements of the various tissues, consists chiefly of a proximate element, of complex composition—namely, albumen, in combination with phosphorus and certain fatty substances, all well suited to the maintenance of constant and lively chemical action.

2. That this material is developed in two forms—the vesicular or gray nervous matter, the fibrous or white,—and that the combination of these two different kinds of nervous matter, differing probably both in chemical composition, and in the form of their elementary parts, but more strikingly different in the one than in the other, takes place in the masses called nervous centres.

3. That at the points of junction or of intermingling of these two forms of nervous matter, blood is very freely supplied—very much more freely than where the fibrous matter exists alone. At these points there is generated constantly and unceasingly a force, which in its nature resembles very closely the galvanic force, or current electricity, as developed in the galvanic battery, or the magneto-electric machine. Adopting the language of the illustrious Faraday, which expresses with clearness and precision the fundamental phenomena of the electric force, we may call the nervous power a polar force, generated in the centres, and propagated by the rapid polarization of the neighboring particles in various directions. The mode of generation of this force, the velocity with which it is transmitted to distant parts of the body, the beautiful provisions adopted for its insulation, have long attracted the notice of physiologists, and have led many to adopt the

notion of its identity with electricity. But there are ample grounds for the opinion, that, although nearly allied to electricity, it differs from and is probably a higher relation of force than that power.

4. The provisions made for the generation of this force has an interesting relation to the conditions whereby the galvanic current is generated in the battery. Two dissimilar forms of nervous matter, both bedewed by the same blood, represent the zinc and copper, with the intervening electrolyte of the battery; and as the activity of the battery, and the energy of the galvanic force, depend on the amount of chemical action between the fluid, which is interposed between the metals and one of them, so the activity of the nutrient or chemical changes in the nervous centres determines the degree of development and vigor of the nervous force. And as in the galvanic battery we look to the nature of the metals as well as to that of the interposed fluid, to enable us to judge of the probable quantity and quality of the force generated; so, in the nervous battery, if I may so speak, we must look to the nature of the nervous matter of both kinds, and to the quantity and quality of the blood, to determine the amount and energy of the nervous force developed. Hence we may fairly assume that while the development of the nervous force is much influenced primarily by the nature of the nervous matter, it likewise is greatly dependent on the quantity, but more especially on the *quality* of the blood.

5. That the brain and spinal cord (and I beg to state that I use these terms to signify respectively the intra-cranial and intra-spinal nervous mass), as the great centres of the nervous system—the great nervous battery of the body—show distinctly a division into two portions: one in which nerves are implanted; the other which has no immediate connection with nerves, and communicates with them only through the medium of the former part. Thus, in the brain, the hemispheres, the corpora striata, the optic thalamus, thetubercula quadrigemina, and the large mass of vesicular matter connected with them and the cerebellum, have no immediate connection with nerves—no nerve is implanted in any one of these centres. The functions of these centres are all of a mental nature,—either the development of intellectual change, or the exercise of volition, or perception, or emotion, or the balancing and coördinating of movements,—and they exercise a control over the various segments of that portion of the cerebro-spinal centre in which nerves are implanted through commissural fibres which pass from them to the various segments of that centre. That part of the cerebro-spinal axis in which nerves are implanted,—which was fully recognised by the distinguished Prochaska, and by him designated the *sensorium commune*—this part is in itself incapable of originating any nervous action, except in virtue of some physical change in it: it cannot develop any mental action except in obedience to a stimulus from some of those centres already mentioned as belonging to the encephalon. This part extends from the upper part of the crura cerebri to the extremity of the spinal cord, and all its actions are physical, unless when excited and guided by any of the encephalic centres. It is the centre of all those reflex actions which take place through the spi-

nal or encephalic nerves. This part corresponds to the true spinal cord of Dr. Marshall Hall, who, however, recognises it in two sets of fibres—one which does not pass beyond it, and another which extends from the various segments up into the brain, and which, according to this author, would establish a direct communication between the brain and the nerves. To this latter doctrine, however, there are many and fatal objections.

Relation between the Vital Powers and the Molecular Constitution of the Organs. By Dr. Grainger.—Among the prime questions of the animal economy, there are few, if any, points of higher moment than that which concerns the relations existing between the vital powers and the molecular and chemical constitution of their organic instruments. We have at present a much clearer insight into these interpendencies than had hitherto ever been obtained. Thus, in the vegetative existence, we can distinctly trace the new organic matters introduced into the interior of the system through many, and in not a few instances, through all their manifold and important changes, till at length, having served their purpose, and constituted for a time a component part of the machine, they are cast out to be replaced by new supplies. That there is an incessant molecular destruction, or to speak more correctly, mutation of the living body, is indeed no new truth, since it has been known from the infancy of science. "Life," to borrow the eloquent language of Cuvier, "is a continued vortex, of which the direction, all complex as it is, remains constant, as well as the kind of molecules propelled by it; but not so the individual molecules themselves, which change without cessation, so that the actual matter of a living body, although it is the depository of forces which will constrain future matter to march in the same direction with itself, will soon be there no longer."

But it is a very different thing to know the general fact of this eternal change, and to be able as we now are, by the aid of organic chemistry, to trace each act of the metamorphosis; to be able precisely to define what becomes of the saccharine and fatty principles of the food; to be able to follow the albuminoid matters, the phosphorus, the earth, alkaline and metallic salts; to have a clear perception to what particular class of organs they go; how they are used up in the production of different kinds of force, or in the formation of various secretions; and finally, to find in the very débris and excreta of the body the sure and certain measure of the vital action itself. It is a great fact to know that no force is generated, that no heat is evolved, that no motor power is produced, that no nervous action takes place,—nay, that even no thought passes through the mind, without equivalent changes in the form of the organized materials of the frame.—*Lon. Med. Gaz.*

PATHOLOGY AND PRACTICAL MEDICINE.

Statistics of Pulmonary Consumption, by Prof. Walshe. The following summary of important results are found appended to an elabo-

rate report, derived from the records of the Hospital for Consumption, London, and contained in the Med.-Chir. Rev. for January last:

1. There apparently exists a greater proneness to early marriage among phthisical, than non-phthisical persons; this greater proneness exists in both sexes, and, in the cases analyzed, prevailed to the same amount in males and females.

2. Of a given mass of patients entering the hospital in all stages of the disease, and in every variety of general condition—between the actually moribund state and that of but slight constitutional suffering—the number leaving it, on the one hand, *improved* or *unadvanced* was more than double that, on the other hand, leaving in *a worse state* or *dying within its walls* (the exact ratio is 67.84: 32.16). If the cases, in which death was actually imminent at the period of admission, were excluded, the result would be very materially more favorable than this.

3. In 4.26 per cent. of the cases, complete restoration to health, not only as regards apparent disturbance of the functions generally, but as regards local evidence of active pulmonary disease was effected.

4. Complete removal of symptoms was more frequently effected in the male than in the female: but, on the other hand, the results were, on the whole, slightly more favorable in the latter than in the former sex.

All patients whose condition grew worse, while they were in the hospital, had reached the stage of excavation before their admission; and all patients, whose tubercules were yet unsoftened on admission, left the hospital either improved, or having had a *statu quo* condition kept up.

Improvement is more probable than the reverse, even where excavation exists on admission.

6. In a given mass of cases, the chances of favorable influence from sojourn in the hospital will be greater, in a certain (undetermined) ratio, as the duration of the disease previous to the admission has been greater,—in other terms, natural tendency to a slow course is a more important element of success in the treatment of the disease, than the fact of that treatment having been undertaken at an early period.

7. The mean length of stay in the hospital in the most favorable class of cases, nearly doubled that in the least favorable.

8. The chances of benefit are more in favor of those whose trades are pursued out of doors (wholly or partially), than of those who work altogether within doors.

9. The results did not appear to be influenced by the laborious or non-laborious character of the trade individuals might have pursued.

10. The age of the sufferers did not exercise any very material influence on the character of the results.

11. Patients coming from the country have, on an average, a slightly stronger chance of improvement, than the residents of London and the suburbs.

12. Patients admitted during the warmer half of the year, benefit by a sojourn at Brompton, to a slight extent, more than those received during the six colder months.

13. From a comparative analysis of the family histories of 446 persons, 162 of them phthisical, 284 non-phthisical, the final conclusion flows:—*that phthisis in the adult hospital-population of this country is, to a slight amount only, a disease demonstrably derived from parents.* It is possible (nay, indeed, *probable*, for, in adults having a parental taint, the outbreak of the disease occurred a mean period of two years and nine months earlier, than in those free from such taint, and that, were investigation extended to infancy, childhood, and youth, the ratio, of cases of parental taint among the phthisical, would be proportionally greater than it proves where inquiry is limited to adults. But, on the other hand, there is no single valid reason for *supposing* (prior to actual experience) that the increase in that ratio would be of more than trifling amount. Again, whether the law differs in the adult portion of the middle and upper classes of society, from that holding in the humbler classes (those supplying hospitals,) can only be positively determined by an analysis of family histories collected among the former classes; meanwhile, it appears justifiable to doubt the reality of any such difference.

14. If no distinction of sex be made, it appears that the softening point is attained with no very unequal rapidity in the right and the left lung; but such difference as exists signifies that softening is, on an average, more quickly accomplished on the left side than on the right.

15. But the law seems very clearly to differ in the two sexes in regard to this point: the disease is more rapidly evolved in the right lung of males, and in the left of females.

16. Age exercises some influence over the course of the disease in the two sexes; the excess of frequency with which the right lung had reached the second and third stages was within 2 per 100, the same before and after the age of 30; whereas in females the excess of frequency with which the left lung was found in those stages was about 45 per 100 greater, after, than before, that age.

17. Hæmoptysis is a symptom of extreme frequency,—occurring in about 81 per 100 of the cases.

18. It was of very slightly (2 per 100) more frequent occurrence in males than females.

19. Hæmoptysis to a medium amount is about four times less common than to very slight or to profuse amounts (both taken together). Very profuse hemorrhage from the lungs is more common in males than females.

20. Medium frequency of recurrence of hæmoptysis is materially less common (and this in both sexes) than a single, or than repeated attacks. Further, repetition of hæmoptysis is more common in males than in females.

21. It is materially more common for a first hemorrhage to be more profuse than subsequent ones, than for subsequent ones to be more profuse than the first.

22. Hæmoptysis is more frequently met with (and this is independently of any influence of duration of the disease) in persons who have reached the second and third stages, than in those whose lungs have not yet softened. This proposition is more markedly true of males than of females.

23. There does not appear to be any notably greater tendency to hæmoptysis, where the right lung has reached a more advanced stage than the left, nor vice versa, where the left has taken the lead. It seems improbable that either lung is more effective in causing hæmoptysis than its fellow.

24. The frequency of hæmoptysis increases with advancing years in both sexes. The increase is more abrupt in females than in males, and in the former appears connected with the catamenial function.

25. This greater frequency of hæmoptysis in persons of more advanced years, does not depend altogether on greater duration of the disease; for those, who had had hæmoptysis, had been phthisical for only a mean period of eight months longer than those who had not spit blood.

26. The most common periods for the occurrence of hæmoptysis, were, at the very outset, or after the expiration of the first month, unless it has actually appeared as the first, or among the first symptoms. The phrase "first symptom" here, is to be understood with the qualification already explained.

27. In upwards of half the cases of notable hemorrhage (beyond 4 oz.) this occurs, or has occurred, as the "first symptom," corroborating the inference as to the excess of amount of first over subsequent hemorrhages.

28. Hemorrhage of this amount is rare as a coëxistence with other first symptoms (in 1.13 of these cases) appreciable by the patient.

29. Streaked or tinged sputa are, on the contrary, of very common appearance amongst the earliest symptoms.

30. But streaked or tinged sputa are rarely (or never) *the* "first symptom" singly and alone.

31. Season does not appear to exercise any marked influence on the occurrence of a first hemorrhagic attack.

32. Hæmoptysis never appeared as the *bonâ fide* first symptom in these cases, the phrase being understood in its absolute sense without qualification.

33. Pulmonary apoplexy is not the cause of phthisical hæmoptysis; the coëxistence of pulmonary apoplexy and tubercles in a person who has had hæmoptysis, more or less recently before death, is at the least very rare. The common cause of hæmoptysis in tuberculous persons, is intense congestion ending in molecular ruptures.

34. Expectoration of blood in persons laboring under chronic bronchitis, with or without emphysema, but without notable disease of the heart, justifies in itself a suspicion of the existence of latent tubercules.

35. A given mass of cases of cancer of the lung will be attended nearly as often with hæmoptysis of all amounts, and greatly more often with hæmoptysis above an ounce at a time, than an equal mass of cases of phthisis. But cancerous disease of the lung is, comparatively speaking, so rare, that this proposition does not materially affect the diagnostic value of hæmoptysis in phthisis. Besides, the distinction of the diseases is, clinically, easy.

36. Not only does chronic empyema not give rise in itself to hæmoptysis, but empyema, established in a phthisical person, appears to a

certain extent prophylactic against the hæmoptysis which is almost an appanage of the latter disease.

37. I have never once seen cardiac disease, of such kind as to cause hæmoptysis, coëxistent with *phthisis*, using the term in its practical sense; but in a fair number of instances I have seen advanced cardiac disease in persons whose lungs contained *crude tubercles and gray granulations*, which had been completely, or almost completely *latent*.

38. Contrary to common belief, it may be affirmed, that when the *nisus hæmorrhagicus* in women menstruating imperfectly, directs itself to the lung, and leads to the evacuation by that organ of a quantity of blood, amounting to or exceeding an ounce, there is motive for suspecting the existence of tubercles.

39. All these propositions tend to exhibit in strong light the diagnostic signification of hæmoptysis *quoad tubercle;* but it is to be remembered that they will only hold completely true, if applied to *latent* as well as *obvious* tuberculization.

40. The diagnostic importance of hæmoptysis as a symptom of tuberculization of the lungs is, indeed, extreme,—even sputa, simply streaked or tinged with blood, are not without significance under certain circumstances.

41. Hæmoptysis is rarely "directly" fatal; more frequently so in males than in females.

42. Frequently-recurring hæmoptysis does not reduce the mean duration of life in any given mass of tuberculous cases.

43. A first hæmoptysis having been severe, it is unlikely that a subsequent one will kill "directly;" and a first hemorrhage being moderate, subsequent ones are not likely to be severe.

44. The prognosis of hæmoptysis is materially more unfavorable in males than in females.

Conclusions respecting the Pathology of Chorea, by R. B. Todd, M. D., F. R. S.—1. That chorea is a disease occurring at a time when the nutrition of the brain is passing as it were through a state of transition, from that of infancy or very early childhood, to that of the adult period, when that organ is peculiarly prone to suffer from mental shocks, or other causes of disturbance of the system, and more especially when the blood is in an unhealthy state, deficient in some of its staminal principles, or containing some morbid element.

2. That the part of the brain mainly affected is the centre of emotion, but that the extent to which it suffers is sometimes limited to one side of that centre, sometimes to both, again extending to the cerebellum or to the corpora striata, or optic thalami.

3. That the nature of the cerebral affection is one of weakened nutrition, with some degree of irritation; as poor blood, rendered perhaps impure by the presence of the matter of scrofula, or of rheumatism, or by some morbid matter peculiar to chorea, excites the nervous battery, and causes it to generate its force feebly and irregularly. The centre of emotion thus feebly excited and irritated by the presence of an abnormal ingredient in the blood, extends its feeble and irregular

polarity to that portion of the centre of implantation of the nerves, which, as the polar state of the conductors of the battery is regulated by that of the battery itself, exhibit the same enfeebled polarity as the centre in which they are implanted.

Lastly. The disease is essentially one of depraved general nutrition, which must be set right before the symptoms which arise out of the local disturbances can be removed; and this is the point of practical interest which must regulate our treatment of the disease.

These conclusions respecting the pathology of chorea receive confirmation from the facts to which I may allude—namely, that choraic movements occur in certain gouty states, and also in white softening of the brain, arising from diseased arteries. Under both these conditions the nutrition of the brain, as well as that of the nerves and muscles, must be depraved and weakened; depraved, especially in the former instance, by the matter or poison of gout; weakened in both.—*Lon. Med. Gaz.*

Treatment of Tubercular Meningitis in Children.—By V. Duke, M. D.—In the treatment of this disease Dr. Duke considers that the usual antiphlogistic means, such as bleeding, mercury, etc., is less admissible, and less likely to be successful. He almost always commences the treatment of a suspected case by giving an emetic of ipecacuanha or tartar emetic, and with great benefit and perfect safety. Purgatives are to be used but sparingly; calomel and jalap, or rhubarb, or senna; or, in cases where there is much irritability of stomach, half a drop of "Short's" croton oil will be the best, preceded by a purgative enema.

These evacuations having been premised, the propriety of blood-letting comes to be considered. This will depend upon the strength of the child and the amount of inflammatory symptoms: if these are marked, blood-letting will be indicated. Dr. Duke recommends the application of leeches to the mastoid process or to the temples, and, in some very acute cases, bleeding from the arm. Mercury, of course, should be given, and its affects are good, but not marked, as in some other inflammatory diseases. Calomel with opium, or mercury with chalk, or magnesia with James's Powder and Dover's Powder, are preferred by Dr. D. Next to these remedies come counter-irritants to the head, cold applications, fomentations to the feet or abdomen, etc.

Dr. Duke states that he has tried iodine in these cases, but cannot "speak very decidedly of any success fairly attributable to its use."—*Dub. Jour Med. Sci.*

Trichina Spiralis observed in the Living Subject.—By James Miller, M. D.—Dr. Miller, at the session of the London Pathological Society, held April 16th, brought forward the particulars of the following case: Elizabeth Harmer, æt. 49, during the early part of last month presented herself at the Western General Dispensary, with a circular, cupped, dense, and painful tumor, about the size of a shilling, springing from the left border of the tongue, near its root. In the neighborhood of the base of the tumor some induration of the tongue existed, and severe

pain was felt in the cheek, pharynx, and ear of the affected side. The countenance of the patient was care-worn, and her general appearance rather cachectic. Until the last two years her health had been very good; but latterly she had complained of a feeling of general debility. The tumor looking suspicious, and causing constant pain, its removal was recommended. She now came under the care of Mr. Anderson, who placed a ligature round the base of the tumor, carefully including all the indurated part.

Considerable hæmorrhage followed when the ligature had cut through the texture of the tongue; small portions were removed by the scalpel. In fragments taken from the cut portion, numerous trichinæ were discovered imbedded in a columnar structure, for the most part parallel, but very fragmentary. Dr. Miller failed to recognise in this at first the nonstriated muscular fibre, until his ideas were corrected by a more precise examination of the tumor by Mr. Dalrymple, who considered this specimen no exception to the occurrence of the entozoon in muscular tissue being limited to the confines of the portions removed, which consisted apparently entirely of trichinæ and non-striated fibres.

The remainder of the portion removed merely consisted of normal mucous membrane, under which was some indurated matter in a state of advanced organization; the case has some interest in the fact of this entozoon being noticed in the living subject, as well as its presence in the non-striated muscular fibre.—*Lon. Med. Gaz.*

On the Differential Diagnosis of Neuroma.—By R. W. Smith, M. D.—The malignant tumors are occasionally found involving the trunks of the nerves, but the true neuroma is, I believe, a disease of a benign character. Bayle, Cayol, and other eminent pathologists, have stated that it is identical with scirrhus; but the following considerations induce me to agree with those who maintain the opposite opinion:

1. To whatever size the tumor may attain, or however long it may have existed, we do not find that it affects the surrounding tissues otherwise than by its pressure; it never converts them into a texture similar to itself; the form alone of the nervous trunk with which it is connected is altered, its component fibres being separated from each other and flattened; it contracts no intimate adhesion either to the contiguous textures or to the integuments, which can be freely moved even over the largest tumors; nor does it affect the lymphatic glands, either in the vicinity or at a distance.

2. It does not exert that specific and destructive influence upon the constitution which forms so remarkable and so constant a feature in the history of cancer; it is true that the general health of the patient is frequently impaired, but this is to be ascribed in such cases to the continued suffering which he endures, and not to any specific reäction upon his system.

3. The disease does not recur after the removal of the tumor, either in the part originally affected or elsewhere. Whether the tumor (when of spontaneous origin) has been extirpated, or the operation of amputation performed, the patient has been in every instance permanently re-

lieved from suffering. How different is this result from the melancholy consequences of operations undertaken for the cure of malignant disease!

The case recorded by Liston does not tend to establish the malignant nature of neuroma; it was an instance of medullary tumor in the popliteal space, involving the posterior tibial nerve; but, as remarked by Knoblauch, "has formationes heterologus neuromatum nomine appellari nolimus, quum nihil cum istis commune habeant et imprimis quoad medendi rationis successum tantopere ab iis differant. Dentur his nomina ipsis propria, ut etiam Strukius casum a se observatum fungum medullarem nervi mediani nominat."

4. The character of the pain which accompanies neuroma is totally different from that which distinguishes cancer.

5. The structure of neuroma, as revealed by the microscope, presents none of the characters which are supposed by modern pathologists to be diagnostic of malignant disease.—*Dub. Jour. Med. Sci.*

On the Treatment of Eczema of the Scalp of Children, and of the Legs of Adults.—By T. H. Burgess, M. D.—As eczema is a constitutional and not a local affection, it is obvious that the treatment should be principally directed through the system generally to the seat of the disease. In the chronic form of the eruption this is especially the case; and here the first indication, after the usual measures of cleanliness have been adopted, is to restore the tone of the system by means of a course of mild tonics and alteratives. When circumstances are favorable, and the proper time arrives for arresting the discharge, it should be effected in as gentle a manner as possible, so as not to derange the internal organs; and for this purpose I prefer mild alkaline lotions of the carbonate or bicarbonate of potass, and the frequent use of the simple or emollient bath, in which the patient, unless very feeble, should remain at least one hour; the usual method of keeping the patient in twenty minutes or half an hour, being useless.

If there is an abundant serous exudation, and much smarting in the parts, half a drachm of sulphuric acid in a pint of barley-water will be found very useful. The patient should commence with small doses, and take a little cold water after each dose, until the stomach becomes accustomed to the acidulated drink. If the discharge continues undiminished, and the eruption does not appear to be affected by those remedies, we must have recourse to alteratives, as sarsaparilla and hydriodate of potash, to active purgatives, if the patient is strong, add to lotions of the nitrate of silver, or of the bichloride of mercury. If there is any inflammatory tendency in the parts, the application of a few leeches behind the ears will be necessary.

Chronic eczema of the legs in adults, and especially when the patients are of a debilitated or broken down constitution, are generally very difficult and unsatisfactory cases to deal with. The practitioner seldom sees the case until the disease is so fully established, and, as it were, engrafted on the limb, that the habitual condition of the parts seems to be that of subacute erysipelas, with puffiness of the ankles, and a swollen if not varicose state of the veins; all denoting a sluggish or impeded

circulation in the extremity. This state of things not infrequently terminates in that form of indolent ulcer of the legs so familiar to practitioners, and so difficult of cure.

For cases of this description I have found the application of the vapors of sulphur and iodine, in combination, the most certain and effectual remedy, when assisted, during the interim of the applications, by bandaging the limb from the foot upwards.

My attention was directed several years ago, by Mr. Alfred Walker, to a preparation of sulphur and iodine, the vapor of which is an admirable local application in several cutaneous diseases. At that period I witnessed its marked benefit in many cases of chronic ulcer, under Mr. Walker's care. These remedies combined seem to possess healing properties which are not manifested when they are used separately. When employed judiciously, and in appropriate cases, they appear to alter the vitality of the morbid parts, and to induce a state of healthier action. If the eruption is indolent, they gently stimulate the diseased surface into greater activity; and by regulating the strength of the remedy, according to the nature of the case, and the object in view, the most salutary effects may often be derived from its use. I have seen cases of lepra of several years' standing, which had resisted every other treatment, cured in a very few months by the application of the vapor of sulphur and iodine. It is particularly applicable to squamous and tubercular diseases of the extremity, to chronic eczema, and ill-conditioned ulcers of long standing. It may be administered in this form—℞. Sulphuris, ʒiij.; hyd. sulph. rubri. ℈ij.; iodinii, gr. x. M. fiat pulv. sex.

One of the powders to be used in the following manner three times a day. If the disease be seated on the limbs, a tin case, or even a common jar, which will answer as well, provided it be large enough to hold the limb, should be procured; a heated iron is to be placed at the bottom of this apparatus, with a grating above it to protect the foot or hand. One of the powders being placed on this heated iron, the limb is to be instantly put into the bath, the mouth of which should be covered over to prevent the vapor from escaping. The limb may be continued in the bath for from fifteen to twenty minutes, according to circumstances. In the course of a day or two the proportion of iodine may be increased; for example, thirty grains of iodine, and at a later period double the quantity, may be incorporated with an ounce and a half of the flowers of sulphur, to be divided into twelve powders, and used in the same manner as the former. I do not mean to extol this agent as a specific for the cutaneous eruptions indicated above; nevertheless, from what I observed both in Mr. Walker's practice, with reference to ulcers, and in my own with regard to skin diseases, I think it is worthy the attention of practitioners, and that it will be found a very efficacious remedy.—*Lon. Med. Gaz.*

SURGERY.

Cases of Gun-Shot Wounds.—By Geo. D. Gibb, M. D.—On this occasion I enclose forty-five cases of gun-shot wounds, of the upper

and lower extremities, and which will form the conclusion of my subject. They present a very great variety in their nature, almost every part indeed, having been implicated. Many of those, where the joints were involved, have terminated in a most successful manner, some not even being followed by anchylosis, as shone in cases 72 and 73, where the balls traversed the articulation of the knee.

I must here state, that I have detailed some cases which have ended fatally; it would not be doing justice to report all the good and leave out the bad; I have considered this so important in relation to fractures of the thigh, that I have omitted none I had the notes of. The results of the treatment in cases of fractured thigh tend further to establish the doctrines already laid down by the majority of British surgeons, namely, to perform primary amputation in cases whether of simple or comminuted fracture, as well as in those of a more severe and complicated form.

The experience of the Parisian surgeons, from the events of February and June, has not advanced our knowledge of military surgery a great deal; a perusal of the reports on gun-shot wounds before the Academy of Medicine, will clearly demonstrate the truth of this. Instead of amputating in all cases of fracture of the thigh, they have tried to save the limbs in a very great number, and the result has proved most disastrous; and even, when a secondary amputation has been performed, the patient almost invariably has succumbed.

Out of twelve cases which I have given, only six were saved, and they form the entire number of cures throughout the hospitals in Paris, while many more indeed may be added to the number of deaths. Many cases, also, which were related as cures before the Academy, have since died.

Of the successful cases, the wounded limbs in all were much shorter than the sound, and added to deformity in two or three, they cannot be considered as useful members to the patient. The case of disarticulation at the hip-joint, No. 59, is the only successful one out of four performed in the month of June.

Four cases of wound of the knee-joint were to be seen in the Hospital St. Louis; two terminated without any bad consequence whatever; one with anchylosis; and the fourth died.

SUPERIOR EXTREMITY.

No. 39. A case in the *Hotel Dieu*, under M. Blandin, where a ball had passed through the shoulder-joint from behind, forwards. Inflammation followed, with suppuration, and the case has terminated with complete anchylosis.

40. A case in the *Hotel Dieu*, under M. Roux, where a ball had passed through the right arm, immediately below the shoulder, fracturing the humerus, and emerging outwards in front of the chest. Union of the fractured bone has followed, and the patient was discharged well some weeks ago.

41. A case in *St. Louis*, under M. Jobert, of fracture of the upper part of the left humerus, from a ball, involving the shoulder joint.

Primary amputation at the joint was performed after the injury, which was not followed by any bad consequences, and by the 15th August the cicatrix of the stump had completely healed.

42. A case in the *Val de Grace*, under M. Baudens. An officer had his left arm shattered by a ball, below the shoulder joint. Primary amputation was performed through the surgical neck of the humerus. This case has been doing well, but a speedy cure was retarded from the patient's having an impaired constitution.

43. A case in *St. Louis*, under M. Jobert, of wound of the arm, with compound fracture near the shoulder, from a ball, necessitating primary amputation at the joint. The patient was doing well for some weeks afterwards, but succumbed from purulent absorption.

44. A case in *St. Louis*, under M. Jobert, of comminuted fracture of the right arm from a ball, which had entered its centre from the front, and escaping three inches below the shoulder. The bones had united by the 15th of August, but at that time a large quantity of callus remained unabsorbed. He was discharged from the hospital in September. None of the comminuted fragments of bone were removed in this case.

45. A case in *St. Antoine*, under M. Nélaton. A ball had entered the anterior surface of the upper third of the right arm, passing obliquely downwards and backwards, and escaping at the middle of its inner side, in its course severing the brachial artery and median nerve. This has been followed by loss of sensation in the hand and lower part of the fore-arm. When the patient coughs, or laughs, or talks loudly, he is immediately seized with a darting pain in the arm, along the course of the wound, which is aggravated on expiration.

46. A case in *La Charité*, under M. Velpeau. A ball had passed across the anterior surface of the elbow towards its inner side, and not injuring the joint. The patient also had a wound of the left hand, rendering amputation of third and fourth fingers necessary; and furthermore he had a severe contusion over the upper part of the left side of the thorax. He was discharged well in August.

47. A case in *La Pitié*, under M. Michon, where a ball had entered at the external part of the left elbow-joint, fracturing the external condyle of the humerus, passing posteriorly, wounding the triceps and neighboring muscles, and escaping at the internal surface of the arm, about four inches from the elbow. Inflammation followed, with suppuration and immense swelling. A few weeks after, some of the ligaments of the joints were sloughing and protruding from the lower wound. Several small splinters of bone were removed, and by the 18th October the wounds had healed, and the case terminated in anchylosis, the forearm being permanently pronated.

48. A case in the *Hôpital des Cliniques*, under M. Geraldis, of a compound fracture of the left elbow-joint, from a ball, in a lad aged 17. This case was in such a bad state when I first saw it, from the serious implication of the joint, attended with inflammation and other bad consequences, that I considered the lad's life sacrificed, by not having resorted to amputation. However, with the persevering application of cold water from a vessel elevated above the arm, and allowed to pour

over it drop by drop, together with the removal of numerous splinters of bone, and other treatment, he was cured by the end of October, with anchylosis.

49. A case in *La Pitié*, under M. Michon. A ball had entered the right arm, immediately above the elbow-joint from behind, fracturing the ulna in its course downwards and outwards, and involving the joint. Enormous swelling followed with inflammation and suppuration; several splinters of bone were extracted; and now the case is nearly well, but still some œdematous swelling of the forearm remains. The patient can flex the arm in a very trifling degree, with the aid of his left hand.

50. A case in the *Hotel Dieu*, under M. Roux. A ball had entered the anterior surface of the left forearm, near its radical border, passing obliquely upwards, and escaping near the external part of the elbow-joint; the joint was safe, but extensive suppuration followed, extending the whole length of the trajet of the ball, which had to be split up with a bistoury. It terminated favorably, but with some stiffness during the act of pronation and supination.

51. A case in the *Hotel Dieu*, under M. Blandin. A ball had passed across the dorsal surfaces of the lower ends of the bones of the right forearm, fracturing them both. Very great swelling followed, with inflammation, and afterwards extensive suppuration, requiring numerous incisions to evacuate pus, and the case looked as if secondary amputation would have to be resorted to. A splint was applied along the anterior part of the forearm; greased charpie was used as a dressing to the wounds, and after the lapse of twelve weeks the bones had united. Now the case is nearly well, with little or no deformity.

52. A case in *La Pitié*, under M. Michon. A ball had entered the upper third of the inner side of the right forearm, over the ulna, where it had become lodged, not producing any fracture. Two several attempts were made to extract it, but it could not be found, and it was presumed it must have tumbled out before the patient was brought into the hospital. Secondary hemorrhage occurred eight days after, which was arrested by pressure. It again occurred on two occasions, requiring on the fifteenth day ligature of the brachial artery, which was performed at the lower third of the arm. Now the arm is nearly healed, and the patient can flex the forearm with perfect ease, but cannot supinate it.

53. A case in *St. Louis*, under M. Jobert, of severe wound of the left wrist-joint from a ball, in a female, which was followed by sloughing and suppuration, leaving a deep fissure extending almost through the carpus, and presenting the appearance as if inflicted by a sabre. The ulcerated surface was covered with numerous and large flabby granulations. Secondary amputation was resolved upon at the end of July, but the operation was delayed, and finally not performed; the wound has since become partially healed, and at this period the patient is in a very precarious state of health, suffering evidently from hectic fever.

54. A case in the *Hotel Dieu*, under M. Blandin, of compound fracture of the wrist and forearm, from a ball. Extensive suppuration followed, with sloughing of the integuments of the posterior part of the

forearm, leaving the muscles quite bare. A splint was applied along the palmar aspect of the arm; and, although the case did appear to be a very bad one, it has done very well; union of the fracture having occurred without any deformity, and the wounds are nearly healed.

55. A case in the *Clinique*, under M. Geraldis, where a ball had entered the anterior surface of the left forearm just above the wrist, and remaining lodged in the hand. Enormous swelling of the lower part of the forearm and hand ensued, which was followed by suppuration and the formation of an abscess in the palm, which was opened. The ball was not extracted until some weeks afterwards, and then the wounds began to heal, and the case speedily did well.

56. A case in the *Val de Grace*, under M. Baudens, of wound from a ball in the centre of the back of the left hand, not completely through. The patient did not know whether the ball had fallen out or was still lodged. The surgeon stated he had removed the fractured ends of three of the metacarpal bones, and on examining the wound on 22d July, he thought he could discover the ball. Chloroform was administered; the wound was dilated, and after probing it, an irregularly flattened ball was extracted, which, said the surgeon, must have struck some piece of iron before entering the hand. A catheter-shaped director was then introduced into the wound, and cut down upon from the palmar surface for upwards of an inch and a half, and a seton passed through the opening. Ice was then ordered locally. From that date the case progressed most favorably, and the hand was quite healed in the month of October.

57. A case in *St. Louis*, under M. Jobert. A ball had passed through the right hand, shattering the metacarpal bones of the fore and middle fingers. The wound resulting was frightful, a large hole existing through the hand. By the 15th August the wound was closed, and the hand was nearly well, but from the loss of substance, the index finger was much shorter, and the hand slightly deformed.

INFERIOR EXTREMITY.

58. A case in *St. Louis*, under M. Jobert. A ball had entered the middle of the right thigh from before, backwards, fracturing the femur, in its course outwards. The fracture has united, and the leg is two centimetres shorter than the left. No splinters were extracted; an abscess, formed at the inner part of the thigh, which has healed, and excepting very little suppuration from the anterior wound, the case is considered cured. The patient has lately been getting baths, and his health is perfectly good.

59. A case in *St. Antoine*, under M. Nélaton, where a ball had extensively wounded the right hip-joint, fracturing the femur, requiring primary amputation, which was performed by the surgeon above named, at the articulation. By the 4th August, the wound of the flaps (which was then about five inches long and one and three quarters wide) was doing as well as could be desired, and there was very little suppuration indeed. The patient has continued to progress favorably, excepting a period of relapse, brought on by the *friendly* visits of the police, from his being an insurgent, and now the cicatrix has nearly healed. A small

fistula exists, from which exude a few drops of pus. His general health is delicate, but he will shortly be removed to another hospital for change of air.

60. A case in the *Val de Grace*, under M. Baudens, in the person of General Demesne, who had his left thigh fractured from a ball, for which primary amputation was performed in the flap operation. He progressed favorably till the latter end of July, when he was so far well, the stump being healed, as to be allowed to descend into the gardens of the hospital for the benefit of fresh air. He became suddenly ill, and died within two or three days from purulent absorption.

61. A case in *St. Louis*, under M. Malgaigne, of comminuted fracture of the left thigh from a ball, in a boy. On the 8th August the case promised well, after very extensive suppuration and the removal of a number of fragments of the broken bone; the leg was considerably shorter than the other, and a fistula had formed in front, from which existed a discharge. A large amount of callus had been thrown out, which was not absorbed. M. Malgaigne pronounced a very favorable prognosis at that time, but afterwards the boy's health began to decline, the wound commenced suppurating anew, and the poor fellow succumbed by the end of September.

62. A case in *St. Louis*, also under M. Malgaigne, of fracture of the left thigh from a ball, the patient, a corporal of the 13th regiment of the line. Secondary amputation was performed on the 5th of August, but death followed on the 11th of the same month.

63. A case in the *Hotel Dieu*, under M. Boyer, of fracture of the left thigh at its inferior third, from a ball which had become lodged and afterwards extracted. By the 14th August the wound had nearly healed, and the case promised well—union apparently going on well. The patient shared the same fate as the preceding a few weeks afterwards.

64. A case in the *Val de Grace*, under M. Baudens, where a ball had entered the left thigh, fracturing the great trochanter and ilium, and remaining lodged. It was extracted, as well as some portions of the fractured bone, and the case has done well, with some suppuration at its commencement.

65. A case in the *Val de Grace*, also under M. Baudens, where a ball had struck the right femur, becoming flattened around it, and not producing any fracture. Very great suppuration followed, requiring numerous incisions to let out matter; a portion of the bone exfoliated, and the case was cured before the lapse of many weeks.

66. A case in *St. Louis*, under M. Jobert, of a severe wound in the groin of a boy, from a ball which had become lodged in the hip. Extensive suppuration followed, with irritative fever, which carried off the patient about the eighth week.

67. A case in the *Val de Grace*, under M. Baudens, of a wound at the inner side of the left thigh, from a ball. Secondary hemorrhage occurred on the 1st August, requiring ligature of the external iliac artery. No bad symptoms followed, but he remained very weak for upwards of a month and a half, and now he is nearly well.

68. A case in the *Hotel Dieu*, under M. Blandin, where a ball had

entered the inner side of the left thigh posteriorly, four inches above the knee, passing forwards and downwards, and escaping just above the external condyle of the femur. Synovitis followed on 26th July, which was combatted, and a cure speedily resulted.

69. A case in the *Beaujon*, under M. Robert, where a ball had entered the inner side of the right thigh, near the knee, wounding the inner hamstring muscles, and passing out posteriorly about four inches above the knee. The wounds quickly healed, with permanent contraction of the tendons, to be shortly remedied by sub-cutaneous section.

70. A case in the *Hotel Dieu*, under M. Roux, of a wound just above the right knee joint, from a ball, which was followed by inflammation and suppuration, and subsequently involving the joint itself. On the 19th July M. Roux amputated the man's thigh by the circular operation. He began to sink on the third day, and died on the ninth day of the operation.

71. A case in *St. Louis*, under M. Jobert, where the knee joint became subsequently involved from a wound immediately above. Amputation of the thigh was performed on the 4th August, under the influence of chloroform. Suppuration of the stump followed, which has continued most freely up to this time, the flaps having shown no disposition to unite even by granulation, and the patient is in a very precarious state.

72. A case in *St. Louis*, also under M. Jobert. A ball had entered the front of the knee joint, at the side of the patella, completely traversing its cavity, and escaping outwards posteriorly. This case was perfectly cured without anchylosis, or any bad consequence whatever.

73. A case in *St. Louis*, also under M. Jobert, very similar to that previously described, where a ball had entered the knee joint from behind, escaping lower down and nearer the edge of the patella than in the preceding case, and appearing, from the wound in front, as if it had passed through that bone. This patient was also cured without anchylosis. The leg was in a bent position when the ball entered the knee.

74. A case in *St. Louis*, also under M. Jobert; where a ball had entered the left knee joint, to the right of the inferior border of the patella, and remaining lodged within. Synovitis followed, with the formation of an abscess an inch and a half lower down than the wound, which permitted of the extraction of the ball out of the joint. The patient's wound is now perfectly healed, but he has anchylosis remaining.

75. A case in *St. Louis*, under M. Malgaigne, where a ball had entered the left knee joint in front, above the patella, and remaining lodged within it. M. M. stated that he was not aware whether there was any fracture here, and he did not like to explore the joint for the ball, as his doing so would produce more mischief than its presence. Synovitis followed, and a succession of abscesses formed around the joint, which ultimately carried off the patient in September.

76. A case in the *Beaujon*, under M. Robert. A ball had passed completely through the head of the tibia from before, backwards. In-

flammation of the knee joint supervened, followed afterwards by suppuration. The surgeon wished to amputate above the knee, but the patient would not submit to it, and died on the 6th August.

Autopsy.—The ball was found to have entered a little to one side of the anterior tuberosity of tibia, passing directly backwards and outwards; its trajet communicated with the knee joint. The cavity of the joint contained a quantity of greenish pus, and its structures were completely disorganized. The articulating surfaces of the tibia, femur, and patella, were entirely denuded of fibro-cartilage, and were rough and irregular. Pus extended upwards between the muscles of the thigh to within three inches of the hip joint.

77. A case in the *Hotel Dieu*, under M. Blandin, of compound fracture of the middle of the left leg, from a musket ball. Consecutive amputation was performed about the ninth week through the articulation of the knee. For some weeks afterward the patient appeared to be doing very well, the stump, although suppurating, healing kindly. Latterly he has not done so well, the stump having commenced to suppurate a good deal; he has been sent from a crowded ward to the Val de Grace, where he will receive the benefit of fresh air.

78. A case in the *Hotel Dieu*, under M. Roux, of comminuted fracture of the leg from a ball. Very extensive suppuration followed, with the formation of a large abscess above the knee joint at the lower third of the thigh, and which subsequently involved the joint itself. Amputation by the circular method was performed on the 14th August. The patient progressed very favorably, the stump being now healed, and his general health is good.

79. A case in *La Pitié*, under M. Michon. A ball had entered the middle of the left leg to the outer side of the tibia, passing backwards through the interosseous space, and escaping outwards posteriorly; erysipelas followed, which extended down to the foot, with the formation of a large abscess over its dorsum. At the same time this patient had received another wound on the right leg, a ball having entered the upper fourth of the tibia from left to right, forming a channel in the bone in its course outwards, and not producing any fracture. Both legs are now perfectly healed, but some tenderness exists over the cicatrices of the wounds.

80. A case in *La Pitié*, under M. Michon. A ball had entered in front of the posterior layer of the muscles of the calf, near the upper third of the fibula, fracturing that bone in its course, and escaping near the inferior fourth of the leg at its inner side. Most extensive suppuration followed, requiring large incisions to let out the matter, and the case looked very bad. The wounds, however, are now healed; the fracture has perfectly united, and some tenderness exists over the superior wound, from which numerous small splinters of bone have been extracted.

81. A case in the *Val de Grace*, under M. Beaudens. A ball had entered above the left ankle, fracturing the tibia, passing through the bones of the tarsus, and escaping at the inner margin of the foot. Inflammation and suppuration followed. Cold applications were used, and the leg was placed in a wooden case with three slides, and ultimately the patient was cured, without anchylosis.

82. A case in *St. Louis*, under M. Malgaigne. A ball had completely passed through the right ankle from right to left. A tumor of an encephaloid character developed itself over the external wound, which was extirpated with the knife on 31st July, the patient being under the influence of chloroform. His wounds are now nearly healed and his general health is good.

New Variety of Luxation of the Humerus.—By M. Malgaigne.—A man, æt. 63, presented himself to M. Malgaigne, 31st of October, with a luxation of the humerus, which had occurred on the 16th of the preceding August; and the subject being a thin one, he was enabled to convince himself that it was a variety of the accident of which he knew of no other example. The man had been pitched to a distance from the top of a high wagon to the ground, and had fallen on his shoulder, the arm being at the same time compressed against the trunk. A careful examination showed that the head of the bone had been carried upwards and forwards above the acromio-coracoid ligament and the coracoid process, which was so concealed by the head of the bone as not to be felt. The exact seat of the head was on the acromio-coracoid ligament, anteriorly and superiorly to the coracoid process; so that it might be termed the *supra-coracoid* luxation of the humerus. It was irreducible at so remote a period.—*Brit. & For. Med.-Chir. Rev.*, from *Rev. Méd. Chir.*

Ligature of the External Iliac Artery.—T. W. Nunn, Esq., has communicated to the *Lancet* (May 5) a case of femoral aneurism about the size of half a large orange, in a man 43 years of age. A ligature was applied to the external iliac, while the patient was under the influence of chloroform, Jan. 26th. The ligature came away on the 22d day (23d Feb.), and on the 23d March the patient resumed his employment. The temperature of the limb was well maintained throughout. On the evening after the operation, the thermometer indicated in the ham of the ligatured side a heat of 95°; while in the ham of the sound side, and in the axilla, a temperature of 92° only was attained. Indeed, many days after the operation, the right limb appeared to the hand to be the warmer of the two, though the thermometer did not verify the impression. I consider the chloroform to have been the cause of the troublesome cough mentioned, but fortunately produced no serious harm.—*Am. Jour. Med. Sci.*

Staphyloraphy.—M. Gerdy exhibited to the National Academy of Medicine a lad, fifteen years of age, on whom he had performed the operation of staphyloraphy, and whose pronunciation was entirely re-established. The cleft-palate in this patient, he stated, was so large, that the thumb could not cover the opening; there was no separation of the bone. Pronunciation was painful, and very imperfect. The fault of pronunciation was principally on the consonants, especially on the c, s, j, ch, n, b; in fact, the whole of the consonants were very

much altered from the air escaping by the nostrils. The sounds were so very confused, that the person could hardly be understood. At present, the patient is cured, with the exception of a very slight embarrassment, the results of previous habits of speaking: at the same time, the deglutition of fluid, formerly accompanied with difficulty, is now quite easy. M. Gerdy made use of the ordinary process of refreshing the edges; but in place of the interrupted suture, which he always thought bad, from its forming a ring, the pressure of which brought on sloughing of the part, he preferred the quilled suture, which forms only a half circle, and does not strangulate the approximated portions. Instead of quills, he used two small pieces of liquorice root, moistened in warm water; he removed the first thread on the 6th day, and the rest on the 7th. M. Gerdy attributed the success principally to the employment of the quilled suture, which he considers preferable to all others for this purpose.—*Monthly Retrospect*, from *Gaz. des Hôpitaux*, Oct.

MIDWIFERY.

On the Treatment of Inversion of the Uterus. By Prof. Murphy.—The Uterus should be immediately replaced before the contraction of the uterine tissue becomes permanent, and may prevent it. Denman found it impossible to restore the uterus when four hours elapsed from the accident. If the inversion be irreducible, its treatment belongs to a different subject from that we are at present discussing. The mode of replacing it is somewhat similar to prolapsed uterus. The tumor is firmly compressed with both hands, and the centre of the fundus pushed upwards towards the pelvis by the fingers, forming a cone: when the reverted portion arrives within the pelvis, the difficulty of advancing it increases, because the uterus is so much folded on itself; but when the fundus passes this point, it flies back to its natural position, just like an Indian rubber bottle. Much of your success will depend upon your promptitude: the uterus should be returned quickly; but if there be much delay or violence, it may become impossible to do so. Recollect, therefore, the opposition which the perinæum may give you: it is necessary to press it back strongly while attempting the reduction, otherwise you might fancy the inversion was irreducible. When the placenta is attached to the uterus, it has become a disputed question whether it should be removed first or not. The bulk of the placenta is undoubtedly an impediment to the restoration of the uterus, but the danger to apprehend from its removal is hemorrhage. Dr. Lever's case is a convincing proof of the risk of such an accident. For this reason Mr. Newnham and many experienced practitioners, strongly urge the importance of leaving the placenta undisturbed until the uterus is replaced. On the other hand, the experience of Dr. Radford and others has satisfied them that no hemorrhage follows the separation. I believe, as has been stated, that this depends upon the degree of contractility in the uterus at the time of accident. It would be a safer plan not to touch the placenta in the first

instance if it were possible to return it with the uterus; but if this should prove difficult, some information of the condition of the uterus may be obtained by a careful examination of the tumor itself. It is generally covered with blood: let this be wiped off carefully, and observe the manner in which the vessels on the surface pour out their blood: if slowly and only guttatim, I think the placenta may be removed at once with perfect safety, and if so it is certainly much more convenient; but if, on the contrary, the surface is again rapidly covered with blood, the separation of the placenta would very likely increase the hemorrhage to a dangerous, perhaps a fatal extent. When the uterus is restored to its situation, the hand should not be withdrawn suddenly, lest the fundus again descend. Firm pressure should be applied on the fundus externally through the abdomen, and when a uniform contraction of the uterus is secured, the hand will be expelled as it is withdrawn: a bandage should then be carefully applied, and the patient kept perfectly at rest for some time. A dose of ergot of rye would also be advisable, in order to secure the tonic contraction of the uterus more efficiently.—*Lond. Med. Gaz.*

Congestion and Erosion of the Cervix Uteri. By F. Churchill, M. D.—Dr. Churchill, in a communication to the Dublin Obstetrical Society, stated, that after the elaborate work of Dr. Bennett, and the excellent paper of Dr. Evory Kennedy, it would be superfluous for him to enter into a description of congestion and erosion of the cervix uteri. He quite agreed with those writers as to its being much more frequent than was heretofore believed, and, also, that it is neither easily detected nor easily cured without the use of the speculum. At the same time, he thinks it neither necessary nor becoming to propose an examination with this instrument in every case of vaginal discharge; a degree of delicacy and discrimination should always be exercised. This is particularly necessary with nervous women. The author has known irremediable mischief result from neglecting this consideration. Again, if it be possible to avoid it, he should consider it wrong to propose an internal examination to an unmarried female. In accordance with these views, whenever he is consulted for a whitish or yellowish vaginal discharge, or for leucorrhœa, Dr. Churchill always makes an attempt to cure it by general means, such as blisters to the sacrum, balsam of copaiba, ergot of rye, &c., with local baths of cold water or astringents. Many cases are thus cured; but if he fail, he thinks it fair to assume that there is either congestion or erosion, requiring other local treatment, and in the majority of cases he has found this to be so. The usual application is nitrate of silver, acid nitrate of mercury, nitric acid, chloride of zinc, all of which he has repeatedly tried with great benefit; but it occurred to him (Dr. Churchill) that caustic iodine would probably answer better than any of these singly, inasmuch as it possesses sufficiently strong caustic properties, and, in addition, would be likely to act beneficially in reducing the enlarged cervix. The preparation Dr. Churchill employs is of the following strength: ℞—Iodinii ʒj, potassæ hydriodatis ʒij, aquæ destillatæ ʒij, spiritus vini ʒij, and,

after four or five years' trial, he can truly say that he has found it the best application for congestion, erosion, or superficial ulceration, of all that he has tried. Dr. Churchill usually commences with a single application of nitric acid, or the acid nitrate of mercury, and then, after a few days, he paints the entire cervix with the iodine. This must be repeated once or twice a week, but not oftener; for whenever he has attempted its more frequent use, he has found the uterine irritation rather to increase than diminish; and this will probably explain why these trifling complaints take so long a time to cure. Dr. Churchill had seldom succeeded in less than two months if the congestion was considerable, and many cases have required a much longer time. The application occasions no pain at all, unless the orifice of the vagina should be touched by the caustic, which may happen if it be applied too profusely. In one case the patient complained of a metallic taste in her mouth, in five minutes or less after each operation. After one or two applications, the cervix will generally be found to have diminished in volume, to have lost its tenderness, and the eroded surface to have lessened in extent, and to have assumed a more healthy appearance. Dr. Churchill strongly recommends that the application of the iodine should not cease abruptly, but first be diminished in frequency, then left off, and resumed if, as is very common, any of the symptoms return.—*Med. Times.*

Expulsion of a Bag of Waters, before the Rupture of the Membranes.—Dr. Alexander Wood narrated to the Edinburgh Obstetric Society (Feb. 14, 1849,) a case which had lately occurred in his practice. On the 8th of February he received a hasty summons to attend a patient whose accouchement was not expected for a month, but who was suffering from a severe attack of pneumonia. Labor pains had lasted about two hours before he saw her. It was her fifth pregnancy. On making an examination, he discovered a membranous sac protruding from between the labia, which he thought consisted of the membranes. On pressing this up, however, during the interval between the pains, he could not reach the head on account of the interposition of fluid, which could not be removed by pressure. The next pain expelled this membranous body, when it was found to present a pyriform appearance, ending in a long neck, the extremity of which could not be reached by the finger. A double ligature was applied to the neck, which, being severed between the ligatures, the sac was removed entire, with the fluid which it contained.

In size, it was capable of holding about six ounces of fluid. It burst in handling it, and discharged a clear, limpid fluid. The membranes were found at the next examination presenting as usual, and the case terminated naturally about an hour after the expulsion of the sac.

Both mother and child did well, although the latter was small and weakly.—*Monthly Journal*, June, 1849.

Puerperal Tetanus.—According to Dr. Pirre-Aubinais, there exists a traumatic puerperal affection distinct from what is ordinarily called puer-

peral eclampsia. It is characterized by clenching of the jaws (trismus,) difficulty or utter incapability of swallowing, contraction or convulsive tension of certain of the muscles, and sometimes of all the voluntary muscles together. This rare affection it is proposed to call puerperal tetanus. It comes on spontaneously, generally soon after the supervention of the milk flow, and in women who ought not to nurse. M. Aubinais has observed it only in women in the country, and where the lochiæ, as well as the cutaneous transpiration, have been arrested by the sudden influence of cold and damps—as by plunging the feet into cold water, walking barefoot on damp ground, or swallowing at once a large quantity of cold water.

Of three cases which M. Aubinais has seen, the affection proved fatal in one. The treatment resorted to, consisted in the use of antiphlogistic remedies and narcotics. In one of the cases, where the woman appeared to be under the influence of the poison of ague, quinine was exhibited with advantage.—*Month. Retrospect*, June, 1849, from *Journ. de la Société de Médecine de la Loire Inferieur.*

Twins born at an interval of twenty-one days.—A woman, 35 years of age, was confined on the night of the 30th of March, 1848. The placenta came away without difficulty. The size of the abdomen remained very considerable; the lochia did not flow, and, nevertheless, the surgeon did not conceive the possibility of another child.

Dr. Prival, of Bedarrieux, was called in, and at once ascertained the presence of a second child. The one already born was full-sized, healthy, and took the breast with avidity. The mother would not remain in bed; she arose and occupied herself with her usual household cares. Twenty-one days after the birth of the first child, labor-pains again came on, and another child was born, as strong and healthy as the first.—*Med. Times*, from *Union Médicale.*

OBITUARY.

It is with regret we announce the death of Dr. Robert J. N. Streeten, the editor of the Provincial Medical and Surgical Journal. We take the following notice of this event from the last number of the Journal.

Dr. Streeten had been suffering for some months from a bronchial affection, the consequence of an attack of influenza which seized him in the early part of the month of January. This left him in a very weak state of health, for which he was induced to try the air of Torquay; here, however, a new train of symptoms supervened, implicating the alimentary canal. For some days he was distressed with continual vomiting, which seemed to relieve the bronchial symptoms, but never entirely left him, and he gradually lost flesh and strength up to the day of his decease, which took place on Thursday, the 10th of May last.—*Med. Gaz.*

PART FOURTH.

EDITORIAL

AND

AMERICAN MEDICAL RETROSPECT.

CHOLERA IN NEW-YORK.—We are again compelled to say a few words on this subject. Since the publication of our last number (at which time it was on the decided increase) the epidemic has raged to no small extent. The whole number of deaths from Cholera up to Aug. 25th, is 4677. By reference to the City Inspector's report, it appears that it arrived at its climax some time during the week ending July 21st, at which date the report of deaths from Cholera Asphyxia was 714. The week previous it was 484, and the week following 689. The gross mortality bill for the week ending July 21st, was 1409. Of this number there were, as just stated, 714 deaths from Cholera Asphyxia ; 132 from Cholera Infantum ; 34 from Cholera Morbus ; 61 from Diarrhœa ; and 71 from Dysentery. The whole amount of deaths from diseases of bowels, 1017. Now, if the aggregate amount, from the above named and similar diseases be compared with the gross mortality bill for the month of July, 1848, which was 1497, it will be seen that from these diseases alone, we have a mortality nearly of over two-thirds the whole mortality bill for the above named month. The mortality from diseases of the bowels has been and still is alarmingly great ; almost equalling the general mortality bills for the corresponding weeks of last year. Cholera, however, is now fast on the wane, and should it continue to decrease for a short time as fast as it has for a few days past, it will, by the time our most distant subscribers shall have received their numbers, have become nearly if not quite extinct. Not so, however, we fear, with the other diseases mentioned in this notice—dysentery especially. This disease, in many parts of the city, has been and still is remarkably

prevalent—particularly so in those portions where cholera has raged most extensively, and among those subjects (as is always the case) who pay but little or *no* attention to hygienic or sanatory regulations. For the purpose of relieving the severe tenesmus generally present in this disease, we have seen considerable benefit arise from the solution of camphor and chloroform, in five or six drop doses.

Camphor and Chloroform Mixture.—In relation to the use of this new combination we have received the following from Dr. E. Harris, of this city. In speaking of its use in several diseases, he says, that "during the past month I have with great satisfaction, administered this preparation in several cases of obstinate vomitings, and also as a palliative to the cramps and vomiting attending cholera.

"Recently, in a case of violent hysteria, I administered it with happy effect. I am now making frequent use of it as a palliative to the tormina of dysentery; exhibiting it in connexion with oleum ricini, opium, ipecac., hyoscyamus, &c., or alone. In a few cases I have used it endermically, pouring a few drachms upon the hypogastrium, and *instantly* covering it with a flannel wrung in hot water, and enveloping the whole trunk with oil cloth. Both in *this way* and in connection with an *epithem of aq. ammonia*, I have used it with happy effect.

"I would not, however, from my own limited experience in the use of this preparation of camphor, speak with great confidence. Its therapeutic value remains to be tested. It certainly is an elegant preparation; and will prove highly serviceable as a prompt and efficient stimulant and anti-spasmodic." For the formula of this mixture see Vol 2, New Series, of this Journal, page 140.

Communication.—*Cholera at Quarantine*—It gives us much pleasure to insert the following communication, containing a resumé of the progress and treatment of cholera at the Quarantine for the last four months. Our thanks, as well as those of our readers, are due to Dr. Sterling for the devotion and lively interest he evinces in behalf of medical knowledge and literature. By the way, we learn that Dr. S. has just completed the translation of Renaud's History of Medicine, a work replete with erudition, and one the speedy publication of which we hope to see accomplished.—Ed. *N. Y. Jour. Med.*

Marine Hospital, Quarantine, S. I., N. Y., Aug. 15, 1849.

Dear Sir,—Since the cholera renewed its attack in April, the number of deaths at the quarantine hospitals has been as follows, viz.:—

In April, 18; in May, 26; in June, 19; in July, 37; in Aug., (to 15th,) 15. Total, 115.

In consequence of many of its subjects having been admitted with other diseases, the number of cholera cases which have occurred here since the first of April, cannot be accurately ascertained; the number, however, brought in from ships, since said date, has been 41, and these not previously to the 17th of May.

In the wards of the lower hospital, under my charge, there have been 32 cases from the 1st of June (at which time the cholera revisited these wards) to the 15th of August, of which number 12 have died. These deaths are included in the above *total.*

Of these cases, 16 were laboring under typhus, or apparently beginning to convalesce therefrom, when attacked by cholera; eight were brought from the city or the sea-board into the hospital with the disease upon them; in two, the previous disease was dysentery; in one, simple fever; one, ptyalism; one, neuralgia; one, debility; one, pulmonary abscess; and one, pneumonia.

Premonitory diarrhœa did not lapse into the cholera; its effects being carefully guarded against. Typhus patients were most obnoxious to this disease, especially at that stage when, the tongue becoming moist, a speedy convalescence was anticipated. This fact was so manifest, that great caution was observed in the administration of such febrifuges as had a tendency to excite catharsis or nausea, and the slightest indication of a loose state of the bowels was promptly antagonized.

Viewing, of late, the algid state of the cholera as bearing some resemblance to those cases of congestive fever, noticed by Sydenham, Armstrong, and other physicians of merit, in which the surface is remarkably cool, the face pale or livid, and the vital powers so completely oppressed, or prostrated, that nature cannot rally, I altered my mode of treatment, and resorted to stimulation with the hope of inciting speedy reäction. For this purpose, I administered, in the collapsed stage, large draughts of hot milk mixed with brandy, applied sinapisms to the wrists, ankles, and abdomen, bottles of hot water to the feet, and enveloped the patient in numerous folds of blankets, expecting thereby to produce a derivation to the surface, a profuse warm perspiration, and thus remove the oppression of the vital organs. In some few cases these results speedily followed, ushering in a favorable crisis; in others the coldness, vomiting and purging were protracted to a longer period, and, again, in others no decided relief was obtained; in one only did cerebral congestion ensue in consequence of this remedy, and this patient survived ten days the onset of the malady.

The quantity of brandy administered did not exceed eight ounces the first twenty-four hours; on the second day it was diminished, and on the third the patients could scarcely be persuaded to drink it; indeed, it was often previously countermanded, for it was contra-indicated as soon as reäction was established.

Cold water, or iced water was not prohibited; on the contrary, it was liberally supplied whenever the patient craved it, and often with the result of allaying the vomiting and ameliorating the intolerable burning sensation in the precordial region.

We cannot explain how two articles apparently incompatible often harmonize with each other, yet hot milk and brandy, alternated with cold water, are not more incompatible than alcoholic stimuli and venesection, which latter means skilful physicians frequently resort to, almost simultaneously, and with the happiest effects, in exciting reäction.

Certain remedies, as adjuvants, were also prescribed *pro re nata;* for the vomiting, spirits of camphor, carminatives, and kreosote; and if the matters ejected were green, yellow, or glassy, a large dose of calomel to reverse the action of the digestive organs; for the purging, cretaceous mixture with tinctures of kino and catechu, or, what more speedily and effectually arrested it, about two ounces of starch injection with twenty drops of laudanum.

In general, the narcotic effects of opium and morphine were scrupulously avoided; for such effects were highly pernicious; and even when these anodynes merely removed pain and allayed irritability of the stomach and bowels, the tranquillity and calm which supervened boded no good; healthy reäction was thereby suspended or arrested, death was not the less certain, often more speedy, and no favorable crisis could be predicted without a decided restoration and reïnvigoration of the natural functions.

Finally, I would observe, that patients lying in the same room with one laboring under the cholera were very susceptible of this disease. It may be excited by panic, contagion, or by atmospheric influence; whichever it be, I presume it is a matter of indifference to the recipient, after he gets it, from what source obtained. I have, however, seen patients seized with it while lying in a state in which they were altogether insusceptible of panic; and if the pernicious condition of the atmosphere be the sole exciting cause, we would not see so much of its peripatetic excursiveness. I cannot, therefore, help believing that something must be attributed to contagion, and be this something ever so little, prudence, if not humanity, demands the separation of cholera patients from those afflicted with other dieases, and especially from the subjects of typhus.

Should this paper be accepted, you will probably hear from me once more on this subject, especially as the cholera seems to have a predilection for our locality, and may prolong its visit at quarantine even after atmospheric influence has departed.

Yours, very respectfully,

JNO. W. STERLING, M. D.

To S. S. PURPLE, M. D., etc., Editor N. Y. Jour. Med., etc.

COMMUNICATION.—*Fracture of Spine—Tetanus—Spasms Affecting the Paralyzed Muscles.* By F. D. LENTE, M. D., Acting Resident Surgeon of the New-York Hospital.—William Brown, æt. 35, Seaman, was admitted to the 2d Surgical Division of the New-York Hospital, July 22d, 1849. A short time previous to admission, patient fell through the hatchway of the ship Columbus, into the hold, a distance of about thirty feet, striking upon his back.

Upon admission, there was found to be total paralysis of sensation and motion of the lower extremities, also paralysis of the bladder, and some pain on pressure over the 12th dorsal vertebræ. Patient was suffering from the shock consequent upon the injury. Is of vigorous constitution and in full health.

July 23d. There is considerable tumefaction and pain over the seat of injury to-day. Ordered cups. Twelve ounces of blood were taken with relief to patient. The urine is dribbling from the urethra, but the bladder is distended. Introduced the catheter, and drew off two pints of urine. July 24th. Patient had a severe chill to-day, followed by hot skin, frequent pulse, and headache. Tongue furred; bowels confined. H. Mercurial Cathartic. ℞ Spt. Nit. Dulc. ʒi, Aq. Camph. ʒiij, Cap. Coch. Mag. q. 3 h. July 25th. Medicine acted with the aid of an enema. Patient feels comparatively comfortable to-day. Urine is becoming turbid, is alkaline, and has a fœtid, ammoniacal odor. Sleeps well at night with a full anodyne. July 30. Patient gradually sinking. Pulse more feeble, tongue becoming dry and brown. Suffers but little, except from inability to change his position in bed.

Notwithstanding the care taken to prevent pressure upon the prominent points of the body, bed sores are forming over the greater trochanters, which however, give the patient no inconvenience. Appetite fair. Has nourishing diet, wine-whey, etc. Takes the mixture first ordered, also pil. opii et camph. gr. ½ a gr. ij. q. 4 h. Urine exceedingly turbid and offensive. Passes it unconsciously from the bladder.

August 10th. Continues to sink gradually. Complains of no pain. Bowels have been opened every two or three days by enemata. The slough over the left trochanter major is extending in circumference and depth; that over the right has separated, and the surface of the ulcer is granulating. August 16th. Patient's condition has continued about the same since last date. To-day he had a chill which lasted about an hour. In the afternoon he complained of slight trismus, and of some stiffness and pain about the sterno-cleido-mastoid muscles, and the muscles of the back of neck, also of some difficulty of deglutition. August 17th. The tetanic symptoms, noticed yesterday, have increased in severity. There is now almost perfect trismus, great difficulty in swallowing, and slight opisthotonos. The muscles of the neck are rigid and painful. H. Tinct. Opii 3ss. q. 3 h.

P. M. There is now well marked opisthotonos, the head being forcibly extended, and patient unable to flex it upon the trunk. There are now also observed slight clonic spasms of the muscles of the paralyzed extremities, most marked in the extensor muscles of the toes, and the flexors of the legs. There is also frothing at the mouth. Tetanic countenance well marked. Can scarcely swallow a teaspoonful of liquid. August 18th. Patient very low; pulse frequent and small, surface bathed in a cold sweat, lips livid; spasms very violent, jaws firmly locked. Spasms of the muscles of the lower extremities well marked. 10 o'clock, A. M., died.

Autopsy.—Five hours after death. Found a comminuted fracture of the body of the 12th dorsal vertebra, with some displacement of

the fragments backwards upon the spinal cord; the laminæ were also fractured. The bladder was found to be thickened, somewhat distended, and its mucous coat highly inflamed, and coated with a thin layer of pus. There was an abscess within the coats of the bladder, which, when cut into, discharged about half an ounce of purulent matter. The ureters and kidneys also in a high state of inflammation.

Communication.—*Case of Fœtal Malformation.* By Samuel Tyler, M. D. 1 o'clock, P. M. Was called to see a female in her first labor; the midwife who was with her told me there was a placental presentation, and that she had sent for me for the purpose of turning and hastening delivery. I made an examination "per vaginum," and found a soft mass presenting and to the touch resembling placenta. I carried my fingers and hand beyond the mass for the purpose aforesaid, but immediately a violent pain expelled the whole contents of the uterus, which were as follows:

A fœtus, about eight months advanced, presenting these peculiarities: the head, shoulders and arms, perfect; the thoracic cavity containing the lungs and heart, the latter of which was more than double the usual size. The abdominal cavity entirely empty; the liver, stomach, bowels, spleen, kidneys and bladder, being developed exteriorly, and only connected with the abdominal cavity by a species of cord or ligamentous connexion; it was the presentation of this mass that caused the midwife and myself to think it was placenta. In addition to the above peculiarities there was one leg, the right, about two inches longer than usual, and the left leg only two inches in length, and protruding backwards, owing also to a slight curvature of the spine, the anterior pelvic and pubic regions, with the male sexual organs attached, were thrown entirely behind. This specimen which I have preserved is certainly a very singular freak of nature.

Fredericks, Md., July 28, 1849.

ANATOMY AND PHYSIOLOGY.

On Secretion.—By Samuel George Morton, M. D.—The function of secretion, like that of digestion and nutrition, is a varied form of cell-growth; but while in *nutrition* every tissue separates from the blood and appropriates to itself the materials of its own development, *secretion* elaborates a peculiar fluid for a special office in the animal economy. Such, at least, is the case with respect to the greater part of the secretions—the bile, the gastric and pancreatic fluids, the saliva, milk and tears, together with the product of the mucous and serous membrane. Another form of secretion is that which separates the refuse elements of the blood in order that they may be thrown out of the system altogether; and the function, though of a strictly secretory nature, is designated by the more definite term of excretion.

Secretion in its more restricted sense, consists in the action of cells which deposit their products on a free surface, communicating more or

less directly with an external outlet. The organs of this function are chiefly the *glands*. The liver is an example of this highest type of glandular organization. Its multitudinous follicles empty themselves into the ducts of which they form the internal parietes, and these ducts finally coalesce into a single canal. Such also is the construction of the pancreas, the salivary glands and some others. The other extreme or the more simple glandular organism is seen in the synovial capsules and serous membranes, which are covered by epithelial cells of the secretory class. But in the mucous membranes we find an intermediate structure, consisting of an *inversion* of the surface at multitudinous points, each one of which is a follicle lined by epithelial cells. A follicle therefore, is a perfect but epitomized gland, hence the axiom in the present state of physiological science,—that in all secretory organs, the cells covering the membranous surfaces and lining the follicles and tubes, constitute the real and only secretory apparatus. (*Illustrated Human Anatomy.*)

Resumé of some Experiments to determine the quantity of blood in the Body.—By Prof. James Blake. (*Med. Exam.*)—The experiments were performed by injecting a weighed quantity of sulphate of alumina into the veins, and analyzing a weighed portion of the blood. As the salt had time to be well mixed with the blood before the animal died, such an analysis would enable us to determine the whole quantity of blood with which the salt had been mixed. The only error which might arise would be from a portion of the salt having combined with some of the tissues, or having been rapidly excreted, and this would only affect the result in one direction, viz., in furnishing a greater quantity of blood than really exists.

The results of my experiments would lead to the conclusion that no such source of error exists, as I find by this method that the weight of blood in the body of a dog does not amount to more than between one-eighth or one-ninth part of the weight of the animal, an estimate much lower than that which is generally received as the quantity of blood in an animal. That this, however, is nearer the truth, is probable, from the consideration of the velocity of the circulation and the capacity of the heart, as on the generally received opinion on the quantity of the blood, it is difficult to imagine how it can circulate so rapidly.

PATHOLOGY AND PRACTICAL MEDICINE.

Chronic Gastritis and Chronic Dysentery.—*Treatment*—By H. Hartshorne, M. D.—In patients affected with indigestion accompanied by epigastric tenderness, very positive advantage was derived under Dr. Wood's treatment from the use of the argent. nitrat.,—beginning with gr. $\frac{1}{4}$ and increasing to gr. $\frac{1}{2}$, thrice daily, with half the quantity, or less, of opium. In some instances vomiting, before frequent, ceased on the administration of this combination in pill. No other remedy seemed so particularly adapted to the chronic inflammation of the primæ viæ, which constitutes one form of dyspepsia.

One case of chronic dysentery of three months' standing, was relieved entirely in a few days by the use, twice daily, of an injection of four ounces of water, containing eight grains of zinci sulphas, with forty drops of laudanum.

One much more recent, originating in the house, but resisting the ordinary astringent and opiate preparations, was cured by a single enema containing a scruple of the sulphate, with starch. This last application, however, was somewhat painful, from the strength of the solution.

Microscopic Appearances of the Discharges and Muscular Fibres of a Patient who died of Epidemic Cholera.—By W. J. Burnett, M. D. Dr. Burnett, by request, recently read a paper before the Boston Society for Medical Improvement, on this subject. It is published in the American Journal of Medical Sciences, for July.

On Sunday, June 3d, a man at the northern part of the city was attacked with the premonitory symptoms of cholera. The case ran a rapid course, and in a few hours he was in a state of collapse; and on the next morning, at ten o'clock, he died.

A post-mortem examination of his body was made, on the afternoon of the same day, at half past three o'clock. At this autopsy I secured a quantity of the "rice-water" liquid found in his intestines; also a portion of one of the pectoral muscles. These specimens I submitted, on the morning of the 5th, to careful and repeated microscopical examinations, and obtained the following results.

1st. "*Rice Water*" *Liquid.*—This was found loaded with epithelium of both varieties, viz., the *cylinder* epithelium, and the *tesselate* or pavement epithelium. These cells were floating about not only singly, but in large flakes of one-thirtieth to one-tenth of an inch in size, and attached uninjured to the "basement membrane" from which they grow; so that it would appear that this "basement membrane" had been stripped off, bearing the cells upon it. The cloudiness and opacity of this liquid seemed entirely due to the presence of immense quantities of these epithelial cells, since no mucous corpuscles or any other corpuscles whatever, as well as no shreds of lymph, could be detected from repeated examinations.

It is well known that the *tesselated* or pavement epithelium covers the mucous membrane of the mouth and œsophagus, while the mucous membrane of the remaining portion of the alimentary canal is covered by the cylinder epithelium. Therefore the presence of both varieties of this epithelium in these discharges would show that they came from the surface of the *whole* of the alimentary canal, instead of from its intestinal portion only.

Loitering here and there, in the field of the microscope, was an occasional crystal of the *oxalate of lime.*

For a long time, I could perceive nothing in this liquid but the two substances just mentioned, viz., the epithelium and the crystal of oxalate of lime. But, after increasing the power of the instrument, a third element appeared, and was then so apparent that I greatly wondered

I had not before seen it. This was the presence of thousands of thousands of *animalculæ* swarming and sporting about in every direction. For a time, I thought that this must be a mere accident, but very many subsequent examinations afforded the same results; and that I might not be the only person to vouch for their presence here, I showed them to my friend, Dr. D. H. Storer, of this city, who made the remark, that he distinctly saw them "writhing about." By a power of five hundred linear diameters, they could clearly be seen, some as *linear* moving bodies, others having a more globular character —the former seeming to be only a linear aggregation of the latter. They seemed, therefore, to be *vibriones*, and by measurement the single animals were from $\frac{1}{16\,000}$ to $\frac{1}{20\,000}$, and the compound chain-like animals were from $\frac{1}{8000}$ to $\frac{1}{4000}$ of an inch in diameter. I state these facts in this precise manner, since some, it is probable, may think that all this is simply the *molecular motion* so often observed in the secretions. But that they were distinct animals having voluntary motion, I have no doubt, since Dr. Storer, as well as myself, saw them moving in a serpentine manner over the field.

2d. *Muscular Tissue.*—Not thinking of seeing any of these appearances, I examined a small bit of muscle, with reference to ascertaining, if possible, on account of the involuntary muscular contractions during life, the proximity of the *striæ* of their *fibrillæ*. But my perception of these relations was not very acute, from my astonishment to find in this tissue these same animalculæ in great numbers. A little distilled water, used to soften the tissue, brought out great numbers of them into it, so that they were seen, as in the intestinal liquid, sporting about hither and thither. In these examinations, all possible care and precaution were used, to prevent the introduction of any foreign bodies into the field of observation.

The great fact to be borne in mind, as the result of these examinations, is that the same *animalculæ* were found in great numbers both in the intestinal liquid and in the muscular fibre. And the fact of their being in the muscular fibre would argue, I think, decidedly against the supposition of their mere accidental presence in the liquid of the alimentary canal.

I much regret that, before these observations were made known, I should not have had the advantage of more specimens from patients who have since died here of this disease. And although it may seem premature that these results from a *single* case should thus be made known, yet they are exposed as simple facts, and upon future examinations I shall rely for the proof, either, on the one hand, that these *animalculæ* were simply *accidental* to *this* case alone; or, on the other hand, that their presence is constant in this disease; and if the latter is found to be correct, as would seem thus to have been foreshadowed, there will then be sufficient time to attempt to trace their *causative* relation with this dire disease now among us.

Furthermore, should future investigations show that these *vibriones* are equally common in the tissues and secretions of patients dying of other diseases—in other words, that their presence in this disease is not specific—yet the above note will not, perhaps, be considered with-

out value—since it may serve to call the attention of better observers than myself to this interesting subject.—*Amer. Jour of Med. Sci.*

Nurses' Sore Mouth.—By J. Yale Ware, M. D. This is a very troublesome complaint of mothers, and one that is rapidly increasing in this section. An infallible remedy, when it does not purge the bowels, is Griffitt's Myrrh Mixture, in table-spoonful doses three times a day, internally, and a solution of nitrate of silver, gr. viii to ℥iv of pure water, for a gargle; and if the soreness extends towards the stomach, swallow a tea-spoonful three times a day. Of course, if need be, the stomach should be cleansed by a light emetic or gentle laxative, antecedent to the above treatment. I believe, if perseveringly used in season, very few mothers need wean their children from this cause; indeed, I have never known it fail to relieve the mouth.—*Amer. Jour. Med. Sci.*

Treatment of Dysentery by injections of Nitrate of Silver and Creosote.—By Prof. Flint.—The nitrate of silver, as we know, in analogous instances of inflamed mucous tissue, for example, in conjunctivitis, pharyngitis, etc., exerts a surprising effect in diminishing and arresting inflammatory action. It has been employed, to some extent, in dysentery, and is recommended by some practical writers, but, so far as we know, is by no means in common use. In one case we resorted to a solution of the crystals of the nitrate of silver, ten grains to the ounce, with marked benefit. The tenesmus and frequent dejections were relieved in a striking degree, and the discharge of mucus and blood was much diminished. To secure the good effects of this application, it is desirable that the injection be made to pass up the intestine as high as practible, in order to bring it into contact with a larger portion of the inflamed surface. We found the best instrument at hand to be a female bone syringe, with a long pipe, terminating by a perforated bulbous extremity. Perhaps a solution of greater strength might be even more serviceable. The patient was a child four years of age. The application occasioned, apparently, little or no pain—not more than the ordinary enemas of starch and laudanum. Another remedy employed in the same case was a creosote mixture. We have used this remedy in two cases; in one of chronic dysentery of long standing, the effect was good, but not extraordinary. In the case recently under treatment, we first employed it in connection with the tincture of opium, and found that the enemas were retained, when with the laudanum alone, they were immediately expelled. We employed, at first, a mixture for each injection (℥ss) containing two minims of creosote. Subsequently we employed the creosote alone, increasing the quantity to four minims, and the good effects were striking. The relief of the local symptoms was quite as great as when the opium was given in combination, the disadvantages of the latter being avoided. We feel confident that this will prove a valuable remedy in the dysentery, and we, therefore, are solicitous that our readers should make trial of it. We do not, of course, suggest these as remedies intended

to supersede other therapeutical measures, but only as useful auxiliaries thereto.—(*Buff. Med. Jour.*)

Local Treatment of Erysipelas—By Joseph Parish, M. D.—Probably there is no question in the whole range of medical discussion in which there is more contrariety of opinion, and difference in the experience of medical practitioners. Every physician has his peculiar mode of practice, founded upon successful individual experience, and while some are prepared to advocate the non-application of any external means, others are bold to approbate the virtues of a variety of substances, as different in their properties, as those who may employ them are, in their opinions. Some of our best authorities claim great relief from the use of cold applications, while others favor the employment of hot and emollient fomentations. Hog's lard, and simple molasses have their advocates; buckwheat and rye meal, mercurial ointment, oxide of zinc, kreosote, nitrate of silver, tinct. iodine, and other agents of different names and properties, are pressed into service with equal claims of restorative power. So far as my own experience and observation will justify the expression of an opinion, there are no substances in the whole range of the materia medica, of equal value in this complaint, with the nitrate of silver, and the compound tincture of iodine. Probably the weight of recorded testimony is on the side of the former agent, although the latter has been fairly tried, and proved by ample experience to be equally serviceable.

Whether erysipelas requires any local treatment at all, is a question in the minds of many judicious and skilful practitioners that is yet unsettled. The disease is asserted to be dependant upon a morbid condition of the blood, and the constitutional injury arising from this change, it is said can only be repaired by means that are calculated to improve the vital fluid, or to secure the abstraction of a portion of it from the body; but whatever may be the pathological condition of the blood, experience proves most conclusively that sedative external remedies, exercise a controlling power over the cuticular inflammation, which cannot be exerted without them. The cutaneous disease is occasionally the only morbid change which is exhibited by post-mortem examinations, and there is much reason to believe that the property of contagion, which belongs to the malady, resides in the inflamed and often abraded surface.—*N. J. Med. Rep.*

SURGERY.

Treatment of Fracture of the Clavicle by means of a new Instrument.—By J. B. Coleman. M. D.—This instrument and its mode of action upon himself is thus spoken of and described by Dr. Coleman:

It was so arranged, that force applied to the ends of a lever at the sound shoulder, should produce the motions that were necessary to draw the fractured ends of the bone into true anatomical position, and hold them there, with but slight inconvenience to the patient. To do

this, the apparatus was in the form of a shoulder brace, made of steel, and in outline nearly resembling the claviculæ joined together at the back. The space occupied by each clavicle was left open, or in other words, the steel work surrounded each bone, so that it could move considerably within the included space. The space over the scapula of the injured side, was covered with buckskin, tight as a drum head, so as to make resistance on that part, and prevent motion; the other side was left open to allow free motion of that shoulder. The central part of the back brace, had a long pad resting upon about eight inches of the spine. This prevented excoriation when force was applied. The extremity of the brace, on the side of the injury, projected farther laterally than the axilla, and above the deltoid projection of the shoulder. From this point a strap, furnished with a buckle for adjustment, passed down through the head of a wedged shaped pad placed in the axilla. From the other side of the brace, two ends projected, one above, corresponding with the first named, the other lower down, on a line with the bottom curves of the brace. From these ends, straps proceeded to attach to a sling in which the arm of the injured side was suspended. The strap from the upper end buckled to the upper part of the sling, near the wrist, and that from the lower end, to the inner and lower part of the sling, somewhere about the middle of the forearm.

The operation of this arrangement is obvious. We have here a lever of the simplest kind. The power, the weight of the arm of the affected side, drawing by the hand, as occasion may require, on the straps connected with the ends of the shoulder brace last described—the fulcrum, the backbone; the resistance, the shoulder of the broken clavicle. The direction of the force upon the injured part is upward, outward and backward; the means of retaining the bone in position, simple, always at command, and not the least impediment to the mechanical movements of the ribs. The only point liable to excoriation, is the axilla, and with this apparatus, less than any other.

To prevent the brace from sinking on the back, and to guard against any lateral swerving, a piece of wood or metal about two inches wide is made, so as to have sufficient elasticity, is attached to the central piece, extending down the spine, and adapted to its curvatures. This reaches somewhere near the waist, and is secured by a belt passing around the body.

Fifteen days after the fracture of a collar bone, I applied this apparatus to myself. Up to this time the slightest jar caused a movement between the ends of the bone, and unless the bandages were intolerably tight; perfect adaptation seemed impossible. From this instant, position was easily maintained, no movement seemed to disturb the bone, I was able to ride over rough roads without the least inconvenience, and when union took place there was what is extremely rare after these accidents, not the smallest distortion of outline. This experiment led me to use the apparatus in many other cases in which the results have been the same.—*N. J. Med. Rep.*

New Method of Expelling Foreign Bodies from the Larynx.—Dr. Charles Hansford, of Knoxville, Ill., in a letter to the editors of

the *N. W. Med. and Sur. Journ.*, (May 1849,) relates the case of a colored girl who had accidentally got a pin into the windpipe, and was suffering with all the distressing symptoms consequent upon obstruction of the air passages from a foreign body. She was directed to lie upon a bench, face downwards, with the head projecting over the edge, and to take a full inspiration. Whilst in this position, with the lungs filled with air, a smart blow or two on the back with a pillow, made hard and firm by compression, had the effect to expel the pin at once from the larynx. In this case, the first blow moved the pin about an inch, the second forced it into the mouth.

"Since that time," Dr. H. writes, "I have had several opportunities of trying the maul made of a pillow. I have driven out water-melon seeds in this manner, on three different occasions; a grain of corn at one time, and a large glass bead at another."—*Amer. Jour. Med. Sci.*

"Extroduction" of the Bougie for Stricture.—By Prof. Brainard.—Prof. Brainard, in the N. W. Med. and Sur. Journal, gives the history of a case where the patient had suffered for eleven years from stricture of the urethra following gonorrhœa; retention of urine had almost become perfect; the patient complained of great pain and a constant desire to void urine, without the ability to pass only a few drops at a time. Various careful but ineffectual attempts were made to pass the bougie, the bladder had risen several inches above the pubis nearly to the umbilicus. The bladder was now punctured above the pubis with the long curved trochar and the stylet withdrawn. As soon after the operation as the state of the parts would admit, long and persevering attempts to pass the bougie were made, but without success. Near the posterior extremity of the spongy portion of the urethra was a knotty projection, beyond which the instrument would not pass. The thought now occurred to Dr. B., that the prostatic and membranous portion of the urethra could be explored by means of an instrument passed into the bladder through the opening made by the puncture, and still occupied by the canula. The attempt was made by means of a small-sized bougie rendered firm by means of a stiff wire bent to form the segment of a circle. Very little difficulty was met with in the attempt to pass it. By a very little exertion the point of the instrument was brought to within two inches of the orifice of the urethra and then seized by means of a pair of forceps, the wire was withdrawn and the open end of the bougie passed into the bladder. The instrument was allowed to remain for three days when it was withdrawn and a larger one substituted. Larger instruments were used from time to time until one above the medium size passed without the least difficulty. One month after the first operation the cure was nearly complete. The following practical deductions are drawn by Dr. B., from this case.

1st. The puncture of the bladder above the pubis, if care be taken to prevent infiltration of urine, is a slight operation, and should not be deferred till extreme distention takes place. In further proof of this, we would refer to a case published not long since in the Buffalo

Medical Journal, by our friend Dr. J. P. White, of that city. In that case a puncture of the kind served as a substitute for a urethra for a long time with but trifling inconvenience.

2d. This puncture may be made useful in catheterism. For this operation of passing a catheter forwards, which so far as we are aware, has not been done before, a friend has suggested the name of *Extroduction*. It may be performed with a properly curved instrument very readily, and if difficulties should occur, they may be obviated by passing the finger into the rectum. If the cases in which it is likely to be useful are rare, they are extremely urgent, and when they occur this operation may prove a valuable means of relief.

MIDWIFERY.

Case of Complete Inversion and Expulsion of the Uterus. By T. H. Yardley, M. D., (*Amer. Jour. Med. Sci.*)—At five o'clock, P. M., Jan. 5th, 1849, I found on my slate a message, requesting my immediate attendance on Mrs. H———, a lady whom I had engaged to attend in her accouchment. She had taken a dose of oil in the morning, which operated freely, and so rapid was her labor, that she had barely time to get on the bed before the child was born.

Two hours after, I found her lying across the foot of the bed, entirely pulseless, skin cold and clammy, and her voice nearly inaudible. Her attendants were in great consternation. and one of them sat at the foot of the bed, holding on to the cord, for the purpose, as she said, of preventing it from "going up." I directed some brandy and water to be given her immediately, and on passing my finger along the cord, I came in contact with a large solid body, which I at first thought was another fœtus protruding from the vagina; but a very slight examination satisfied me it was the placenta, attached to the inverted uterus, which had passed entirely out of the vulva.

I immediately separated the placenta, which was very slightly adherent, and then placing my fingers in a conical position, I pressed them against the middle of the inverted uterus, and returned it to its proper position with facility. Another difficulty now presented itself: the uterus did not manifest the slightest disposition to contract, and was so flaccid that I felt satisfied it would not retain its position if I withdrew my hand; I therefore kept it in the cavity of the uterus, and gently irritated its internal surface. The hemorrhage was very slight; but the patient was already pulseless, and the attendants so much alarmed as to afford very little assistance. I directed stimulating frictions to be made to the extremities, and sent one messenger for my friend Dr. Janney, and another for some vinous tincture of ergot, which I gave in doses of a teaspoonful every ten minutes with a teaspoonful of brandy and water. I retained my hand in the uterus half an hour before I felt the slightest contractions; they then came on, at short intervals, with increasing strength; and, after Dr. Janney arrived, we considered it safe to withdraw my hand. Dr. Janney placed his hand on the abdomen, and satisfied himself that the uterus continued to contract; the patient, however, continued so ill, that he gave me his valuable assistance for two hours, during which time we plied

her freely with brandy, camphor, carbonate of ammonia, and other stimulants, and applied cloths wrung out of hot capsicum and turpentine to her extremities. Under this treatment, she gradually rallied; but it was not till after midnight that I considered her sufficiently revived to leave her. Her convalescence was tedious, but perfect; and the child did well, though there was not the slightest secretion of milk.

I am aware that many authors of merit recommend that the uterus should be reverted before the placenta is detached; and this is no doubt proper practice where the uterus is within the vagina. But where an unusually large placenta, as in this case, has passed entirely out of the os externum, I think it would be a difficult task to force it back again, and further, as I doubt the propriety of making the attempt, particularly as I am not aware of any evil having resulted from first separating the placenta; and in many cases in which it has been attempted to replace the uterus with the adherent placenta, it was found impossible to succeed. Professor Meigs, in his recent work on obstetrics, records a case in which both he and the late Professor James tried without effect—and I am sure that no one acquainted with these gentlemen could doubt their skill and perseverance;—but they were compelled to detach the placenta before they could replace the uterus. What influence traction of the cord had in this case, I am unable to determine. The patient was an exceedingly delicate woman; this was her second accouchment, and she had recently undergone much bodily fatigue, and mental anxiety and depression, in consequence of the illness of her husband, who had died a few weeks previously of phthisis.

Puerperal Metritis Treated by Iodide of Potassium.—By J. R. Ludlow, M. D. The patient was 28 years of age, and the mother of three children, and possessed a tolerably good constitution. Her previous labors had all been difficult, caused by an antero-posterior contraction of the superior straight. Twenty-four hours after delivery she was seized with the usual symptoms of metritis. She was put upon the usual treatment in such cases, which treatment was continued until the afternoon of the fourth day, when, as there was no amelioration of the symptoms, she was put upon the use of iodide of potassium, in five grain doses every four hours, combined with small doses of digitalis and nitre, together with poultices and vaginal injections. This treatment was continued for seven days, when a perfect recovery had taken place. Dr. L. mentions a case treated in the same way, which proved unsuccessful. In speaking of these cases, he says:—

The same *general* treatment was adopted in both; the one died, the other recovered. I do not by any means, assert that the difference in the result was attributable to the iodide of potassium. Much more extensive trial would be necessary to establish so important a fact. But as it produced no manifest harm, and can readily be added to other

means, is it not the duty, as well as the interest of the medical profession, to test its value by future experiments? Certain it is, the steady and rapid progress of convalescence during its use, was to say the least, not a little surprising to myself, and I offer this case in addition to others already reported, showing the beneficial effects of the employment of this remedy.—*N. J. Med. Rep.*

MATERIA MEDICA AND TOXICOLOGY.

Poisoning by Oil of Cedar, (*J. Virginiana.*)—*Report of Four Cases.*—By S. C. Wait, M. D.—(*Bost. Med. and Sur. Jour.*)—The rarity of poisoning by this substance, and the absence of any notice being taken of the same in Toxicological works, etc., has led Dr. Wait to report the particulars of four cases which have within a few years come under his own personal observation. The subjects were all females, and in three of the instances it was taken for the purpose of producing abortion. The symptoms manifested in all may be looked upon as somewhat characteristic. Convulsions of a "*tonic*" character affecting the whole body; eyes very glaring and still; jaws set; hands clenched; breathing, struggling, choking and strangling; countenance bloated and livid; pulse from 45 to 60 per minute; vomiting of a fluid having a strong odor of the oil. As soon as the convulsions ceased the patients passed into a profound coma. Stertorous breathing, however, continued but for a short time, being soon followed by a peculiar kind of breathing, the chief character of which was "an unsuccessful heaving of the chest in inspiration, and a limpsy dropping together of the chest in expiration." The countenance assumed a venous aspect; pulse sank and soon became intermittent; pupils dilated; soft parts about the neck sunk down at every inspiration, the whole indicating that venous congestions were taking place in the large venous trunks behind the heart, and that the balance between the circulation and respiration was lost.

Two of the four cases proved fatal. The quantity taken in each was from half an ounce to an ounce. The post-mortem appearances were—the odor of cedar oil given forth on opening the stomach; the lining membrane of the stomach presented several small red patches as large as the finger-nail upon its upper and anterior surface; for some distance around these patches the mucous membrane had lost its usual polished appearance; the duodenum showed marked signs of inflammation. The uterus in each instance was in a healthy gravid state. The usual treatment in cases of poisoning from narcotic irritants was pursued. In one instance marked benefit followed free bleeding.

Lupulin as an Anaphrodisiac.—(*Amer. Jour. Med. Sci.*)—Dr. Page called the attention of the Philadelphia College of Physicians to the lupulin as a means of controlling the painful erections occurring in venereal cases. He has employed it now for two years, and has found it a better and more effectual remedy than any other he has tried. He

gives it in the dose of from five to ten grains, and has never known an instance in which the second dose did not succeed in subduing the painful erections, so troublesome in cases of gonorrhœa. It does not cause the headache, constipation, and other unpleasant effects consequent upon the use of camphor and opium. He has found the remedy useful also in cases of involuntary seminal emissions. It will not cure the disease, but prevents the discharges, so long as the patient remains under its influence.

Dr. Edward Hartshorne has employed it successfully in one case to destroy venereal appetite in a man addicted to onanism.

OBITUARY.

Death of Professor Barbour.—It is with deep regret we have to record the decease—by the fatal epidemic which has rendered St. Louis desolate, and been fatal to so many of its exemplary citizens—of Professor Barbour, who ably filled the chair of Obstetrics in the University of Missouri, the medical department of which is located in St. Louis.

Professor Barbour was a native of Virginia, and a son of Judge Barbour, of the Supreme Court of the United States, one of the distinguished worthies whose memory Virginia cherishes. He received his professional education partly at the University of Virginia, and graduated in the University of Pennsylvania. Many years ago he removed to the south-west, and occupied for some time, with marked credit, the chair of Chemistry, in Lagrange College, Tennessee. The chair of Obstetrics, in the University of Missouri, having been offered him, he moved to St. Louis some years ago, and has since resided there; honored as an able teacher; beloved as a man; extensively confided in as an honorable and philanthropic physician; and, when prematurely cut off, having still brighter prospects before him. He had the greatest confidence in a compound of morphia, Hoffman's anodyne liquor, and other excitants, similar to many formulæ in use in cholera and choleroid affections; but his own case is another melancholy example of the utter inapplicability of any remedy, or combination of remedies, for special morbid conditions, which may, notwithstanding, have received a common appellation.—*Med. Exam.*

Death of Dr. A. Hunter.—On the first of August, Abraham T. Hunter, M. D., aged 52 years. Another melancholy instance of devotion and sacrifice to the public good. He was a generous and talented physician.

Death of Dr. Alexis Smith.—On the 18th of July, Alexis Smith, M. D., aged 49 years, of Cholera. Dr. Smith was, at the time of his death, cholera physician to the 3d Ward. His duties had been arduous in the extreme.

TO READERS AND CORRESPONDENTS.

SINCE the completion of Dr. BATCHELDER's article on Inflammation, in this number of the Journal, the whole has been republished in a monograph form. We commend this essay to the attention of students of medicine as well as the profession generally.

It is with no ordinary pleasure that we announce to our readers, that the printing of the second volume of the Transactions of the American Medical Association is now nearly completed. The publishing committee having announced that the "proofs" of the reports have all been received, and the printing now will proceed as rapidly as possible. The volume will exceed 800 pages, 600 of which have been already printed.

The following publications have been received since our last:—

Curabilite de la Phthisie et des Scrofules Appuyée sur des Preuves Authentiques. Par A. M. BUREAUD—RIOFREY, Docteur en Médecine de la Faculté de Paris, etc. etc. etc. Paris. German, Bailliére, Libraire, éditeur. Londres Billiére. 1847. 8vo. pp. 216. (From the Author.)

Du Choléra Moyens Préservantifs, et Curatifs au Philosophie des Grandes Epidémies. Par A. M. BUREAUD—RIOFREY, Docteur en Médecine de la Faculté de Paris, etc. etc. etc. Paris, German Bailliére, Libraire, éditeur: Londres Billére. 1847. 8vo. pp. 116. (From the Author.)

Lectures on the Diseases of Childhood. By CHARLES WEST, M. D., F. R. C. P., Senior Physician to the Royal Infirmary for Children, etc. etc. Philadelphia: Lea and Blanchard. 1850. 8vo. pp. 451. (From the Publishers.)

Essays on Pathology and Therapeutics. Being the substance of the course of Lectures delivered. By SAMUEL HENRY DICKSON, M. D., Professor of the Institute and Practice of Medicine, in the Medical College of the State of South Carolina. New-York: S. S. & W. Wood. 1845. 2 vols. 8vo. pp. 588–651. (From the Publishers.)

The Practice of Surgery: Embracing Minor Surgery and the Application of Dressings, etc., etc. By JOHN HASTINGS, M. D., U. S. N., etc. etc. With numerous Illustrations. Philadelphia: Lindsay and Blackiston. 1850. 12mo. pp. 479. (From the Publishers.)

Physician and Patient: or A Practical View of the Mutual Duties, Relations and Interests of the Medical Profession and the Community. By WORTHINGTON HOOKER, M. D. New-York: Baker and Scribner. 1849. 12mo. pp. 453. (From the Publishers.)

Observations on the Spread of Asiatic Cholera and its Communicable Nature. By JOHN EVANS, M. D., Professor of Obstetrics and the Diseases of Women and Children, in Rush Medical College, etc. etc. Chicago: 1849. Pamphlet, 8vo. pp. 43. (From the Author.)

Remarks on premedication and the doctrine of a retrograde action from Collapsion of the Absorbents and Capillary vessels. By Samuel A. Cartwright, M. D. Pamphlet, 8vo. pp. 8. (From the Author.)

A Treatise on Diseases of the Bones. By EDWARD STANLEY, F. R. S., President of the Royal College of Surgeons of England and Surgeon to St. Bartholomew's Hospital. Philadelphia: Lea and Blanchard. 1849. 8vo. pp. 286. (From the Publishers.)

Medicines, their Uses and Mode of Administration. Including a complete Conspectus of the three British Pharmacopœias, an account of all the new Remedies and an Appendix of the Formulæ. By J. MOORE NELIGAN, M. D., etc. etc. From the second Dublin edition with additions. By BENJAMIN W. MCCREADY, M. D., Professor of Materia Medica and Pharmacy, in the College of Pharmacy of New-York: W. E. Dean. 1849. 12mo. pp. 474. (From the Publisher.)

A valuable little work. We regret that it was received too late for farther notice in this number.

Pollard and Minkler's Obstetrical Supporter, and a description of its Application, Use and Beneficial Effects, as connected with the natural parts and organs in the Process of Parturition, embracing also a description of the Muscles concerned in the mechanism of Labor. By A. POLLARD, M. D. Keeseville: John F. Morgan. 1849. 12mo. pp. 132. (From the Author.)

Surgical Essays and cases in Surgery. By DAVID L. ROGERS, M. D., etc. Newark: N. J. 1849. 8vo. pp. 154. (From the Author.)

Catalogue of Books on Anatomy, Medicine, Surgery, Midwifery, Dentistry, Chemistry, Agriculture, etc. etc. For sale by S. S. & W. Wood. New-York, 1849. 12mo. pp. 98. (From the Publishers.)

The following Journals have been received in exchange:

The Medical Examiner and Recorder of Medical Science, edited by David H. Tucker, M. D., and F. G. Smith, M. D., for September and October. (Monthly. Philadelphia.)

The American Journal of the Medical Sciences, edited by Isaac Hays, M. D. for October. (Quarterly. Philadelphia.)

The American Journal of Insanity, edited by the Officers of the New-York State Lunatic Asylum, for October. (Quarterly. Utica, N. Y.)

The New-Jersey Medical Reporter, and Transactions of the New-Jersey Medical Society, edited by Joseph Parrish, M. D., for October. (Quarterly. Burlington.)

The American Journal of Pharmacy, published by authority of the Philadelphia College of Pharmacy, edited by Joseph Corson, M. D., and Wm. Proctor, Jr., for October. (Quarterly. Philadelphia.)

The Charleston Medical Journal and Review, edited by P. C. Gaillard, M. D., and H. W. De Saussure, M. D., for September. (Bi-Monthly. Charleston.)

The New-Orleans Medical and Surgical Journal, devoted to Medicine and the Collateral Sciences, edited by A. Hester, M. D., for September. (Bi-Monthly. New-Orleans.)

Southern Medical and Surgical Journal, edited by Paul F. Eve, M. D., for September and October. (Monthly. Augusta.)

St. Louis Medical and Surgical Journal, edited by M. L. Linton, M. D., and Wm. M. McPheters, M. D., John S. Moore, M. D., and Joseph N. McDowell, M. D. (Monthly. St. Louis.)

Buffalo Medical Journal, and Monthly Review of Medical and Surgical Science, edited by Austin Flint, M. D., for October. (Monthly. Buffalo.)

The North Western Medical and Surgical Journal, edited by J. Evans, M. D., for September. (Bi-Monthly. Chicago and Indianapolis.)

Transylvania Medical Journal, edited by Ethelbert Dudley, M. D., for October. (Bi-Monthly. Lexington.)

The Western Lancet and Hospital Reporter, edited by L. Lawson, M. D. September and October. (Monthly. Cincinnati.)

The Boston Medical and Surgical Journal, edited by J. C. V. Smith, M. D. September and October numbers received. (Weekly. Boston.)

The Western Journal of Medicine and Surgery, edited by L. P. Yandell, M. D. and T. S. Bell, M. D. September and October numbers received. (Monthly. Louisville.)

The New-York Dental Recorder, edited by C. C. Allen, M. D., Dentist, for September and October. (Monthly. New-York.)

The British-American Journal of Medicine and Physical Science, edited by Archibald Hall, M. D., L. R. C. S. E., for September and October. (Monthly. Montreal.)

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